

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner,

v.

INTELLECTUAL VENTURES II LLC,
Patent Owner.

Case IPR2025-00342

U.S. PATENT NO. 7,336,805

**DECLARATION OF SYLVIA D. HALL-ELLIS, PH.D.
UNDER 37 C.F.R. § 1.68 IN SUPPORT OF PETITION
FOR *INTER PARTES* REVIEW**

I. INTRODUCTION

1. My name is Sylvia D. Hall-Ellis. I have been retained as an expert by Counsel for Tesla (referred to herein as “Tesla”).

2. I have written this declaration at the request of Tesla to provide my expert opinion regarding the authenticity and public availability of three publications. My declaration sets forth my opinions in detail and provides the basis for my opinions regarding the public availability of these publications.

3. I reserve the right to supplement or amend my opinions, and basis for them, in response to any additional evidence, testimony, discovery, argument, and/or other additional information that may be provided to me after the date of this declaration. If called to testify in the above-captioned matter, I will testify with regard to the opinions and bases set forth below.

4. I am being compensated for my time spent working on this matter at my normal consulting rate of \$400 per hour, plus reimbursement for any additional reasonable expenses. My compensation is not in any way tied to the content of this declaration, the substance of my opinions, or the outcome of this proceeding. I have no other interests in this proceeding or with any of the parties.

5. All of the materials that I considered are discussed explicitly in this declaration.

II. QUALIFICATIONS

6. I am currently an Adjunct Professor in the School of Information at San José State University. I obtained a Master of Library Science from the University of North Texas in 1972 and a Ph.D. in Library and Information Science from the University of Pittsburgh in 1985. Over the last fifty years, I have held various positions in the field of library and information resources. I was first employed as a librarian in 1966 and have been involved in the field of library sciences since, holding numerous positions.

7. I am a member of the American Library Association (“ALA”) and its Association for Library Collections & Technical Services (“ALCTS”) Division, and I served on the Committee on Cataloging: Resource and Description (which wrote the new cataloging rules) and as the chair of the Committee for Education and Training of Catalogers and the Competencies and Education for a Career in Cataloging Interest Group. I also served as the Chair of the ALCTS Division’s Task Force on Competencies and Education for a Career in Cataloging. Additionally, I served as the Chair for the ALA Office of Diversity’s Committee on Diversity, as a member of the REFORMA National Board of Directors, and as a member of the Editorial Board for the ALCTS premier cataloging journal, *Library Resources and Technical Services*, as a Co-Chair of the Membership Committee for the Library Research Round Table (LRRT) of the American Library

Association, and as a member of the LRRT Nominating Committee. Currently I serve as a member of the CORE Margaret Mann Citation Committee.

8. I have also given over one-hundred presentations in the field, including several on library cataloging systems and Machine-Readable Cataloging (“MARC”) standards. My current research interests include library cataloging systems, metadata, and organization of electronic resources.

9. I have been deposed thirty-eight times: (1) *Symantec Corp. vs. Finjan, Inc.*, Petition for *Inter Partes Review* of U.S. Patent No. 7,613,926, May 26, 2016, on behalf of Symantec Corp.; (2) *Symantec Corp. vs. Finjan, Inc.*, Northern District of California, 14-cv-299-HSG, on behalf of Symantec Corp., September 14, 2017; (3) one deposition for ten matters: *Intellectual Ventures I LLC vs. AT&T Mobility LLC*; AT&T Mobility II LLC, New Cingular Wireless Services, Inc., SBC Internet Services, Inc., Wayport, Inc., and Cricket Wireless LLC, C.A. No. 12-193 (LPS); *Intellectual Ventures II LLC vs. AT&T Mobility LLC*; AT&T Mobility II LLC, New Cingular Wireless Services, Inc., SBC Internet Services, Inc., Wayport, Inc., and Cricket Wireless LLC, C.A. No. 13-1631 (LPS); *Intellectual Ventures I LLC vs. T-Mobile USA, Inc. and T-Mobile US, Inc.*, C.A. No. 13-1632 (LPS); *Intellectual Ventures II LLC vs. T-Mobile USA, Inc. and T-Mobile US, Inc.*, C.A. No. 13-1633 (LPS); *Intellectual Ventures I LLC, vs. Nextel Operations, Inc., Sprint Spectrum L.P., Boost Mobile, LLC and Virgin Mobile USA, L.P.*, C.A. No. 13-1634

(LPS); *Intellectual Ventures II LLC vs. Nextel Operations, Inc., Sprint Spectrum L.P., Boost Mobile, LLC and Virgin Mobile USA, L.P.*, C.A. No. 13-1635 (LPS); *Intellectual Ventures I LLC, vs. United States Cellular Corporation*, C.A. No. 13-1636 (LPS); *Intellectual Ventures I LLC vs. United States Cellular Corporation*, C.A. No. 13-1637 (LPS); *Intellectual Ventures II LLC vs. AT&T Mobility LLC, AT&T Mobility II LLC, New Cingular Wireless Services, Inc.*, C.A. No. 15-799 (LPS); *Intellectual Ventures I LLC vs. T-Mobile USA, Inc. and T-Mobile US, Inc.*, C.A. No. 15-800 (LPS), on behalf of AT&T Mobility LLC; AT&T Mobility II LLC, Boost Mobile, LLC Cricket Wireless LLC, Nextel Operations, Inc., New Cingular Wireless Services, Inc., SBC Internet Services, Inc., Sprint Spectrum L.P., T-Mobile USA, Inc., T-Mobile US, Inc., United States Cellular Corporation Virgin Mobile USA, L.P., and Wayport, Inc., November 15, 2016; (4) *Hitachi Maxell, LTD., v. Top Victory Electronics (Taiwan) Co. Ltd., et al.*, Eastern District of Texas, 2:14-cv-1121 JRG-RSP (E.D. Texas), on behalf of Top Victory Electronics (Taiwan) Co. LTD, *et. al.*, January 20, 2016; (5) *Sprint Spectrum, L.P. vs. General Access Solutions, Ltd.*, Petition for *Inter Partes* Review of U.S. Patent No. 7,173,916, on behalf of Sprint Spectrum L.P., July 13, 2018; (6) *Nichia Corporation vs. Vizio, Inc.*, Central District of California, 8:16-cv-00545; on behalf of Vizio, Inc., October 12, 2018; (7) *Intellectual Ventures I LLC, vs. T-Mobile USA, Inc., T-Mobile US, Inc., Ericsson Inc., and Telefonaktiebolaget LM Ericsson*,

Middle District of Florida, 2:17-cv-00557 (JRG), on behalf of T-Mobile USA, Inc., T-Mobile US, Inc., Ericsson Inc., and Telefonaktiebolaget LM Ericsson, October 19, 2018; (8) Pfizer, Inc. vs. Biogen, Inc., Petition for *Inter Partes Review* of U.S. Patent No. 8,821,873, on behalf of Pfizer, November 3, 2018; (9) *Finjan, Inc. vs. ESET, LLC and ESET SPOL. S.R.O.*, Southern District of California, 3:17-cv-00183-CAB-BGS, on behalf of ESET, January 15, 2019; (10) *Finjan, Inc. vs. Cisco Systems, Inc.*, Northern District of California, 5:17-cv-00072-BLF-SVK, on behalf of Cisco Systems, Inc., September 6, 2019; (11) *Facebook, Inc., Instagram, LLC and Whatsapp Inc. vs. Blackberry Limited*, Petition for *Inter Partes Review* of U.S. Patent No. 9,349,120 B2, on behalf of Facebook, Inc., Instagram, LLC and Whatsapp Inc. December 20, 2019; (12) *3Shape A/S and Shape Inc. v. Align Technology, Inc.*, Petition for *Inter Partes Review* of U.S. Patent No. 7,156,661, IPR2020-00222 and IPR2020-00223, August 10, 2020, on behalf of 3Shape A/S and 3Shape Inc.; (13) *Finjan Inc. v. Rapid7, Inc. and Rapid7 LLC*, District of Delaware, 1:18-cv-01519-MN, September 15, 2020; (14) *VLSI Technology LLC v. Intel Corporation*, Western District of Texas, 6:19-cv-00254, 6:19-cv-00255, 6:19-cv-00256, on behalf of Intel Corporation, September 23, 2020; (15) *Finjan Inc. v. Sonicwall, Inc.*, Northern District of California, 5:17-cv-04467-BLF-HRL, on behalf of Sonicwall, Inc., October 27, 2020; (16) *VLSI Technology, LLC v. Intel Corporation*, District of Delaware, 1:18-cv-00966-CFC-CJB, February 5, 2021, on

behalf of the Intel Corporation; (17) *Unified Patents, LLC v. Good Kaisha IP Bridge I*, Petition for *Inter Partes* Review of U. S. Patent 7,817,868, February 11, 2021, on behalf of Unified Patents; (18) *Finjan, Inc. v. Qualsys, Inc.*, Northern District of California, 4:18-cv-07229-YGR, March 1, 2021, on behalf of Qualsys, Inc.; (19) *Qualcomm, Inc. v. Monterey Research LLC*, Petition for *Inter Partes* Review of U. S. Patent 6,534,805, May 6, 2021, on behalf of Qualcomm, Inc.; (20) *Hulu, LLC v. Sound View Innovations, LLC*, Petition for *Inter Partes* Review of U. S. Patent 5,806,062, May 14, 2021, on behalf of Hulu, LLC; (21) *VLSI Technology LLC v. Intel Corporation*, Western District of Texas, 6:19-cv-00254, 6:19-cv-00255 and 6:19-cv-00256, August 3, 2021, on behalf of Intel Corporation; (22) *Liquidia Technologies, Inc. v. United Therapeutics Corporation*, Petition for *Inter Partes* Review of U. S. Patent 10,716,793 B2, October 20, 2021, on behalf of Liquidia Technologies, Inc.; (23) *EcoFactor, Inc. v. Google, Inc.*, Western District of Texas, 6:20-cv-00075 (ADA), 6:20-0078-ADA, and 6:20-cv-00080 ADA, October 27, 2021, on behalf of Google, Inc.; (24) *Liquidia Technologies, Inc. v. United Therapeutics Corporation*, Petition for *Inter Partes* Review of U. S. Patent 10,716,793 B2, March 11, 2022, on behalf of Liquidia Technologies, Inc.; (25) *Juniper Networks, Inc. v. Swarm Technology LLC*, Petition for *Inter Partes* Review of U. S. Patent 9,852,004, May 5, 2022, on behalf of Juniper Networks, Inc.; (26) *ParkerVision, Inc. v. Intel Corporation*, Western District of Texas, 6:20-cv-108

(ADA), October 26, 2022, on behalf of the Intel Corporation; (27) *CommScope v. TQ Delta*, Petition for *Inter Partes Review* of U. S. Patents 9,094,348 and 10,833,809, February 16, 2023, on behalf of CommScope; (28) *WSOU Investments d/b/a Brazos v. Salesforce.com, Inc.* for Western District of Texas, 6:20-cv-01164-ADA and 6:20-cv-01170-ADA, April 18, 2023, on behalf of Salesforce; (29) *Regents of the University of Minnesota v. AT&T Mobility LLC*, District of Minnesota, 14:cv-4999-JRT-TNL & 14-cv-4669-JRT-TNL, May 18, 2023, on behalf of AT & T Mobility LLC; (30) *VLSI Technology LLC v. Intel Corporation*, Northern District of California, 5:17-cv-0571-BLF-NC, July 11, 2023, on behalf of Intel Corporation; (31) *Trustees of Purdue University v. ST Microelectronics*, Western District of Texas, 6:21-cv-00727-ADA, July 27, 2023, on behalf of ST Microelectronics; (32) *Advanced Micro Devices, Inc. v. Realtek Semiconductor Corp.*, Petition for *Inter Partes Review* of U. S. Patents 7,936,245 & 9,590,582, August 10, 2023, on behalf of Advanced Micro Devices, Inc.; (33) *Motif Foodworks, Inc. v. Impossible Foods, Inc.*, Petition for *Inter Partes Review* of U. S. Patent 9,943,096, August 24, 2023, on behalf of Motif Foodworks, Inc.; (34) *Network System Technologies, LLC v. Texas Instruments, Inc.*, Eastern District of Texas, 2:22-cv-00482-RWS, March 20, 2024, on behalf of Texas Instruments, Inc.; (35) *Pardalis Technology Licensing, LLC v. International Business Machines Corporation*, Eastern District of Texas, 2:22-cv-00452, May 23, 2024, on behalf of

International Business Machines, Corporation; (36) *Pardalis Technology Licensing, LLC v. International Business Machines, Corporation*, Eastern District of Texas, 2:22-cv-00452, May 23, 2024, on behalf of International Business Machines, Corporation; (37) *Meta Platforms, InstaGram, Inc., Whatsapp LLC, Facebook Technologies LLC, and Giphy, Inc. v. VL Collective IP LLC*, Petition for *Inter Partes Review* of U. S. Patent 7,436,980, July 18, 2024, on behalf of Meta Platforms, InstaGram, Inc., Whatsapp LLC, Facebook Technologies LLC, and Giphy, Inc.; and, (38) *LCY Biotechnology Holding, Inc. v. RadiciChimica S.p.A*, Petition for *Inter Partes Review* of U. S. Patent 11,781,148, August 6, 2024, on behalf of LCY Biotechnology Holding, Inc. I have testified at trial three times: (1) *Advanced Micro Devices, Inc. v. Realtek Semiconductor Corp.*, U. S. Patents 7,936,245 & 9,590,582, October 20, 2023, International Trade Commission, Washington, DC, on behalf of Advanced Micro Devices, Inc.; (2) *Trustees of Purdue University v. ST Microelectronics*, Western District of Texas, 6:21-cv-00727-ADA, November 29, 2023, on behalf of ST Microelectronics; and, (3) *Certain Power Converter Modules and Computing Systems Containing the Same*, Investigation ITC-337-TA-1370, International Trade Commission, May 1, 2024, on behalf of Delta Electronics, Inc.

10. My full *curriculum vitae* is submitted herewith as Appendix A.

III. PRELIMINARIES

A. Scope of this declaration.

11. I have been asked to offer an opinion on the public availability dates of the following documents:

- a. Broggi, A., M. Bertozzi, A. Fascioli, C. Guarino Lo Bianco, and A. Piazzzi. "Visual Perception of Obstacles and Vehicles for Platooning." *IEEE Transactions on Intelligent Transportation Systems*, vol. 1, no. 3 (September 2000): 164-176. ("Broggi," EX1005)
- b. Huttenlocher, Daniel P., and Shimon Ullman. "Object Recognition Using Alignment." *Image Understanding Workshop: Proceedings of a Workshop* (vol. 1, pp. 370-380). 2 vols. U.S. Defense Advanced Research Projects Agency. San Mateo, CA: Distributed by Morgan Kaufmann Publishers, 1987. ("Huttenlocher," EX1006)
- c. Broggi, Alberto, Massimo Bertozzi, Gianni Conte, and Alessandra Fascioli. *Automatic Vehicle Guidance : the Experience of the ARGO Autonomous Vehicle*. River Edge, NJ: World Scientific Publishing Company, 1999.

12. I am informed by counsel that the alleged priority date for the patent at issue is June 16, 2004. As I will explain below, it is my opinion that the

publications discussed in my declaration were publicly accessible before the alleged June 16, 2004, priority date.

13. I am not an attorney and will not offer opinions on the law. I am, however, rendering my expert opinion on the authenticity of the documents referenced herein and on when and how each of these documents was disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, could have located the documents before June 16, 2004.

14. I am informed by counsel that an item is considered authentic if there is sufficient evidence to support a finding that the item is what it is claimed to be. I am also informed that authenticity can be established based on the contents of the documents themselves, such as the appearance, contents, substance, internal patterns, or other distinctive characteristics of the item, taken together with all of the circumstances. I am further informed that an item is considered authentic if it is at least 20 years old, in a condition that creates no suspicion of its authenticity, and in a place where, if authentic, it would likely be. Lastly, I have been informed that a document's authenticity can be established by comparison with an authentic specimen.

15. I am informed by counsel that a printed publication qualifies as publicly accessible as of the date it was disseminated or otherwise made available

such that a person interested in and ordinarily skilled in the relevant subject matter could locate it through the exercise of ordinary diligence.

16. While I understand that the determination of public accessibility under the foregoing standard rests on a case-by-case analysis of the facts particular to an individual publication, I also understand that a printed publication is rendered “publicly accessible” if it is cataloged and indexed by a library such that a person interested in the relevant subject matter could locate it (*i.e.*, I understand that cataloging and indexing by a library is sufficient, though there are other ways that a printed publication may qualify as publicly accessible). One manner of sufficient indexing is indexing according to subject matter category. I understand that the cataloging and indexing by a single library of a single instance of a particular printed publication is sufficient, even if the single library is in a foreign country. I understand that, even if access to a library is restricted, a printed publication that has been cataloged and indexed therein is publicly accessible so long as a presumption is raised that the portion of the public concerned with the relevant subject matter would know of the printed publication. I also understand that the cataloging and indexing of information that would guide a person interested in the relevant subject matter to the printed publication, such as the cataloging and indexing of an abstract for the printed publication, is sufficient to render the printed publication publicly accessible.

17. I understand that routine business practices, such as general library cataloging and indexing practices, can be used to establish an approximate date on which a printed publication became publicly accessible.

B. Person of Ordinary Skill in the Art

18. I am told by counsel that the subject matter of this proceeding relates generally to a docking assistance using image analysis. '805 Patent, Abstract.

19. I am informed by counsel that a “person of ordinary skill in the art at the time of the invention” (“POSITA”) is a hypothetical person who is presumed to be familiar with the relevant field and its literature at the time of invention. This hypothetical person is also a person of ordinary creativity, capable of understanding the scientific principles applicable to the pertinent field.

20. I was told by counsel that a POSITA in June 2004 would have had a bachelor’s degree in electrical engineering, computer engineering, computer science, or a related subject, and four years of work experience in image processing, automated vehicle control/navigation, or a related field. Less experience may be necessary with additional education (e.g., a master’s degree), and likewise, less education may be necessary with additional work experience (e.g., 5-7 years).

21. It is my opinion that such a person would have been engaged in research, learning through study, and practice in the field and possibly through

formal instruction the bibliographic resources relevant to his or her research. By no later than the early 2000s (and more specifically, before June 16, 2004), such a person would have had access to a vast array of long-established print resources in the field, as well as to a rich set of online resources providing indexing information, abstracts, and full text services for publications relevant to the field of this dispute, including at least the publications discussed in this declaration.

C. Authoritative Databases

22. In preparing this declaration, I used authoritative databases, such as the OCLC WorldCat, the Library of Congress Online Catalog, and the U. S. Copyright Office database, to confirm citation details of the publications discussed.

23. *OCLC WorldCat Database.* The OCLC was created “to establish, maintain and operate a computerized library network and to promote the evolution of library use, of libraries themselves, and of librarianship, and to provide processes and products for the benefit of library users and libraries, including such objectives as increasing availability of library resources to individual library patrons and reducing the rate of rise of library per-unit costs, all for the fundamental public purpose of furthering ease of access to and use of the ever-expanding body of worldwide scientific, literary and educational knowledge and

information.”¹ Among other services, OCLC and its members are responsible for maintaining the WorldCat database,² used by independent and institutional libraries throughout the world.

24. *U. S. Copyright Office.* Created by Congress in 1897, the Copyright Office is responsible for administering a complex and dynamic set of laws, which include registration, the recordation of title and licenses, a number of statutory licensing provisions, and other aspects of the *1976 Copyright Act* and the *1998 Digital Millennium Copyright Act*. The public catalog in the Copyright Office includes information filed since 1978.³ Individuals can search by title, personal or corporate name, key word, registration number, and document number. Works filed before 1978 can be located through the Copyright Public Records Reading Room.⁴ A researcher can find the date on which an item was published and deposited for copyright.

¹ Third Article, Amended Articles of Incorporation of OCLC Online Computer Library Center, Incorporated (available at <https://www.oclc.org/content/dam/oclc/membership/articles-of-incorporation.pdf>)

² <http://www.worldcat.org/>

³ <https://cocatalog.loc.gov/cgi-bin/Pwebrecon.cgi?DB=local&PAGE=First>

⁴ <https://www.copyright.gov/circs/circ23.pdf>

D. Indexing

25. A researcher may discover material relevant to his or her topic in a variety of ways. One common means of discovery is to search for relevant information in an index of periodical and other publications. Having found relevant material, the researcher will then normally obtain it online, look for it in libraries, or purchase it from a publisher, a bookstore, a document delivery service, or other provider. Sometimes, the date of a document's public accessibility will involve both indexing and library date information. However, date information for indexing entries is often unavailable. This is especially true for online indices.

26. Indexing services use a wide variety of controlled vocabularies to provide subject access and other means of discovering the content of documents. The formats in which these access terms are presented vary from service to service.

27. Before the widespread development of online databases to index articles in journals, magazines, conference papers, and technical declarations, libraries purchased printed volumes of indices. Graduate library school education mandated that students learn about the bibliographic control of disciplines, the prominent indexing volumes, and searching strategies required to use them effectively and efficiently. Half of the courses that I studied in library school were focused on bibliography and resources in academic disciplines.

28. Librarians consulted with information seekers to verify citations, check availability in union catalogs, printed books catalogs, and the OCLC database, and make formal requests for materials, *e.g.*, books, conference proceedings, journal articles. Requests were transmitted using Telex machines, rudimentary email systems, and the United States Postal Service. During my career, I have performed and supervised staff who handled these resource sharing tasks.

29. A major firm known for the breadth of subjects and comprehensive treatment in the preparation of index volumes, the H. W. Wilson Company offered these reference resources since the firm was founded in 1898. The *Reader's Guide to Periodical Literature* is one of the best-known titles available from H. W. Wilson. Each volume includes a comprehensive index for 300 of the most popular and important periodicals published in the United States and Canada. Information seekers have subject access expressed in plain language terminology, author access, and cross references to find the desired results from their searches. The family of index titles included *Science & Technology Index*, *Business Periodicals*, *Applied Science & Technology Index*, *Humanities Index*, *Biological & Agricultural Index*, and *Industrial Arts Index*. These printed indices have been superseded by digital database offerings available to information seekers through Ebsco.

30. Online indexing services commonly provide bibliographic information, abstracts, and full-text copies of the indexed publications, along with a list of the documents cited in the indexed publication. These services also often provide lists of publications that cite a given document. A citation of a document is evidence that the document was publicly available and in use no later than the publication date of the citing document.

IV. LIBRARY CATALOGING PRACTICES

A. MARC RECORDS AND THE ONLINE LIBRARY CATALOG

31. I am fully familiar with the library cataloging standard known as the MARC standard, which is an industry-wide standard method of storing and organizing library catalog information.⁵ MARC was first developed in the 1960s by the Library of Congress. A MARC-compatible library is one that has a catalog consisting of individual MARC records for each of its items. Today, MARC is the primary communications protocol for the transfer and storage of bibliographic metadata in libraries.⁶

⁵ The full text of the standard is available from the Library of Congress at <http://www.loc.gov/marc/bibliographic/>.

⁶ Almost every major library in the world is MARC-compatible. *See, e.g., MARC Frequently Asked Questions (FAQ)*, Library of Congress, <https://www.loc.gov/marc/faq.html> (last visited September 2, 2024) (“MARC is the acronym for MACHine-Readable Cataloging. It defines a data format that

32. MARC is a framework into which descriptive bibliographic data are transcribed to interact with the software in online library catalogs to provide access to books, journals, and other resources in the collection. The bibliographic data provide points of access and can be searched by a person of ordinary skill in the art (“POSITA”) to identify and obtain resources in the library collection. An information seeker (or POSITA) can search a local online library catalog or the holdings of a group of libraries in a state or region or in the global catalog WorldCat.

33. MARC records are not designed for public viewing. Although a significant number of libraries provide access to the MARC version of a bibliographic record, the public display is designed to show information in a succinct manner that is quickly understood and useful to the information seeker. Libraries determine the default search for the online catalog to make the entry of search terms efficient and result in a successful search. Information seekers can enter a keyword, title, author, or standard number for the item. Libraries may also provide a search capability called “Summon” that allows the information seeker to

emerged from a Library of Congress-led initiative that began nearly forty years ago. It provides the mechanism by which computers exchange, use, and interpret bibliographic information, and its data elements make up the foundation of most library catalogs used today.”). MARC is the ANSI/NISO Z39.2-1994 (reaffirmed 2016) standard for Information Interchange Format.

enter known information about the item to conduct a search.

34. Since at least the early 1970s and continuing to the present day, MARC has been the primary communications protocol for the transfer and storage of bibliographic metadata in libraries.⁷ As explained by the Library of Congress:

You could devise your own method of organizing the bibliographic information, but you would be isolating your library, limiting its options, and creating much more work for yourself. Using the MARC standard prevents duplication of work and allows libraries to better share bibliographic resources. Choosing to use MARC enables libraries to acquire cataloging data that is predictable and reliable. If a library were to develop a “home-grown” system that did not use MARC records, it would not be taking advantage of an industry-wide standard whose primary purpose is to foster communication of information.

Using the MARC standard also enables libraries to make use of commercially available library automation systems to manage library operations. Many systems are available for libraries of all sizes and are designed to work with the MARC format. Systems are maintained and improved by the vendor so that libraries can benefit from the

⁷ A complete history of the development of MARC can be found in *MARC: Its History and Implications* by Henrietta D. Avram (Washington, DC: Library of Congress, 1975) and available online from the Hathi Trust (<https://babel.hathitrust.org/cgi/pt?id=mdp.39015034388556;view=1up;seq=1>; last visited September 2, 2024).

latest advances in computer technology. The MARC standard also allows libraries to replace one system with another with the assurance that their data will still be compatible.

Why Is a MARC Record Necessary? LIBRARY OF CONGRESS,
<http://www.loc.gov/marc/umb/um01to06.html#part2> (last visited September 2, 2024).

35. Examining the MARC records for a specific item reveals the comprehensive data transcribed about a particular item at the time that cataloging and classification occurred. In addition to the creator, title, subjects, and standard numbers, additional information may provide additional and relevant data depending on the type of resource. Understanding the full extent of bibliographic data for an item and the points of access associated with it provides essential information that can be used to determine the indexing and public availability for documents described in this Declaration.

B. MARC RECORDS

36. A MARC record comprises several fields, each of which contains specific data about the work. Each field is identified by a standardized, unique, three-digit code corresponding to the type of data that follow. For example, a work's title is recorded in field 245, the primary author or creator of the work is recorded in field 100, an item's International Standard Book Number ("ISBN") is recorded in field 020, an item's International Standard Serial Number ("ISSN") is

recorded in field 022, an item's Library of Congress call number is recorded in field 050, and the publication date is recorded in field 260 under the subfield "c." *Id.*⁸ If a work is a periodical, then its publication frequency is recorded in field 310, alternate publication frequency is recorded in field 321, and the publication dates (*e.g.*, the first and last publication) are recorded in field 362, which is also referred to as the enumeration/chronology field. *See* <http://www.loc.gov/marc/bibliographic/bd3xx.html> (last visited September 2, 2024).

37. The library that created the record is recorded in Field 040 in subfield "a" with a unique library code. When viewing the MARC record online via Online Computer Library Center's ("OCLC") bibliographic database, hovering over this code with the mouse reveals the full name of the library. I used this method of "mousing over" the library codes in the OCLC database to identify the originating library for the MARC records discussed in this Declaration. Where this "mouse over" option was not available, I consulted the Directory of OCLC Libraries to

⁸ In some MARC records, field 264 is used rather than field 260 to record publication information. *See* <http://www.loc.gov/marc/bibliographic/bd264.html> (last visited September 2, 2024) ("Information in field 264 is similar to information in field 260 (Publication, Distribution, etc. (Imprint)). Field 264 is useful for cases where the content standard or institutional policies make a distinction between functions").

identify the institution that created the MARC record.⁹

38. MARC records also include several fields that include subject matter classification information. An overview of MARC record fields is available through the Library of Congress at <http://www.loc.gov/marc/bibliographic/>. For example, 6XX fields are termed “Subject Access Fields.” *See* <http://www.loc.gov/marc/bibliographic/bd6xx.html>. Among these, for example, is the 650 field; this is the “Subject Added Entry – Topical Term” field. *See* <http://www.loc.gov/marc/bibliographic/bd650.html>. The 650 field is a “[s]ubject added entry in which the entry element is a topical term.” *Id.* These authenticated subject entries “are assigned to a bibliographic record to provide access according to generally accepted thesaurus-building rules (e.g., *Library of Congress Subject Headings* (LCSH), *Medical Subject Headings* (MeSH)).” *Id.*

39. Further, MARC records include call numbers, which themselves indicate a subject and physical location within the library collections. For example, the 050 field is the “Library of Congress Call Number.” *See* <http://www.loc.gov/marc/bibliographic/bd050.html> (last visited September 2, 2024). A defined portion of the Library of Congress Call Number is the classification number, and “source of the classification number is *Library of Congress Classification* and the *LC Classification-Additions and Changes*.” *Id.*

⁹ <https://www.oclc.org/en/contacts/libraries.html>

Thus, included in the 050 field is a subject matter classification. Each item in a library has a single classification number. A library selects a classification scheme (*e.g.*, the Library of Congress Classification scheme just described or a similar scheme such as the Dewey Decimal Classification scheme or the National Library of Medicine Classification scheme) and uses it consistently. When the Library of Congress assigns the classification number, it appears as part of the 050 field. If a local library assigns the classification number, it appears in a 090 field. In either scenario, the MARC record includes a classification number that represents a subject matter classification.

40. Each item in a library has a single classification number. A library selects a classification scheme (*e.g.*, the Library of Congress Classification scheme just described or a similar scheme such as the Dewey Decimal Classification scheme) and uses it consistently. When the Library of Congress assigns the classification number, it appears as part of the 050 field, as discussed above. For MARC records created by libraries other than the Library of Congress (*e.g.*, a university library or a local public library), the classification number may appear in a 09X (*e.g.*, 090) field. See <http://www.loc.gov/marc/bibliographic/bd09x.html> (last visited September 2, 2024).

C. OCLC

41. The OCLC was created “to establish, maintain and operate a computerized library network and to promote the evolution of library use, of libraries themselves, and of librarianship, and to provide processes and products for the benefit of library users and libraries, including such objectives as increasing availability of library resources to individual library patrons and reducing the rate of rise of library per-unit costs, all for the fundamental public purpose of furthering ease of access to and use of the ever-expanding body of worldwide scientific, literary and educational knowledge and information.”¹⁰ Among other services, OCLC and its members are responsible for maintaining the WorldCat database (<http://www.worldcat.org/>), used by independent and institutional libraries throughout the world.

42. OCLC also provides its members online access to MARC records through its OCLC bibliographic database. When an OCLC member institution acquires a work, it creates a MARC record for this work in its computer catalog system in the ordinary course of its business. MARC records created at the Library of Congress were initially tape-loaded into the OCLC database through a

¹⁰ Third Article, Amended Articles of Incorporation of OCLC Online Computer Library Center, Incorporated (available at <https://www.oclc.org/content/dam/oclc/membership/articles-of-incorporation.pdf>).

subscription to MARC Distribution Services daily or weekly. Once the MARC record is created by a cataloger at an OCLC member institution or is tape-loaded from the Library of Congress, the MARC record is then made available to any other OCLC members online, and therefore made available to the public. Accordingly, once the MARC record is created by a cataloger at an OCLC member institution or is tape-loaded from the Library of Congress or another library anywhere in the world, any publication corresponding to the MARC record has been cataloged and indexed according to its subject matter such that a person interested in that subject matter could, with reasonable diligence, locate and access the publication through any library with access to the OCLC bibliographic database or through the Library of Congress.

43. When an OCLC member institution creates a new MARC record, OCLC automatically supplies the date of creation for that record. The date of creation for the MARC record appears in the fixed field (008), characters 00 through 05. The MARC record creation date reflects the date on which the item was first acquired or cataloged. Initially, field 005 of the MARC record is automatically populated with the date the MARC record was created in year, month, day format (YYYYMMDD) (some of the newer library catalog systems also include hour, minute, second (HHMMSS)). Thereafter, the library's computer system may automatically update the date in field 005 every time the library

updates the MARC record (*e.g.*, to reflect that an item has been moved to a different shelving location within the library). Field 005 is visible when viewing a MARC record via an appropriate computerized interface. The initial field 005 date (*i.e.*, the date the MARC record was created) does appear. The date upon which the most recent update to field 005 occurred also appears in field 005. Thus, when an item's MARC record has been printed to hardcopy—as is the case with the exhibits to this declaration—the date reflected next to field 008 is necessarily on or after the date the library first cataloged and indexed the underlying item.

44. Once one library has cataloged and indexed a publication by creating a MARC record for that publication, other libraries that receive the publication do not create additional MARC records—the other libraries instead rely on the original MARC record. They may update or revise the MARC record to ensure accuracy, but they do not replace or duplicate it. This practice does more than save libraries from duplicating labor, it also enhances the accuracy of MARC records. It also allows librarians around the world to know that a particular MARC record is authoritative. In contrast, a hypothetical system wherein duplicative records were created would result in confusion as to which record is authoritative.

45. The date of creation of the MARC record by a cataloger at an OCLC member institution reflects when the underlying item is accessible to the public. Upwards of two-thirds to three-quarters of book sales to libraries come from a

jobber or wholesaler for online and print resources. These resellers make it their business to provide books to their customers as fast as possible, often providing turnaround times of only a single day after publication. Libraries purchase a significant portion of the balance of their books directly from publishers themselves, which provide delivery on a similarly expedited schedule. In general, libraries make these purchases throughout the year as the books are published and shelve the books as soon thereafter as possible in order to make the books available to their patrons. Thus, books are generally available at libraries across the country within just a few days of publication.

D. JOURNALS

46. Catalogers can create MARC records for all types of print, online, and digital resources. For example, MARC records cover serial publications, including both serially-published monographs and journals. OCLC hosts MARC records for more than 320 million serial publications. Serial publications are those publications that have the same collective title but are intended to be continued indefinitely with enumeration such as a volume or issue number (*e.g.*, magazines, journals, etc.). In the OCLC bibliographic database, the first issue of the serial publication is typically cataloged (*i.e.*, a corresponding MARC record is created), but the date is left open-ended with the use of a punctuation mark such as a dash. OCLC serial publication MARC records represent the entire run of the serial title.

With knowledge of the first issue published, future issues can be predicted based on the information provided in the MARC record, for example in field 362. In my extensive professional experience, it is highly unusual for a library to stop collecting and shelving a serial publication prior to the end of its publication run. If a subscription to a serial publication ends its run or is cancelled before the end of its run, the library will denote that it has stopped receiving new volumes by filling in the end date in the MARC record.

47. The handling of printed journal subscriptions is shown on the cover or the first few pages of individual issues. As was the best practice among libraries, issues arrived at a central facility and were immediately received, verified as part of a subscription, checked in, and stamped or labeled with the institution's name and date. Determining that the issue was part of the library subscription ensured that the entire set of publications for the year had been received so that they could be professionally bound and retained. This process also verified that all of the published issues arrived so that the library staff did not have to request or claim an issue that did not arrive as expected. In large public libraries with branches and multi-campus libraries within academic institutions, the journals were sorted and delivered to the subscribing unit. The new issue was placed in the public area; the older issue was stored so that it remained available.

48. The foregoing process has been standard library practice longer than I

have been working in the profession. I first learned the steps in the process in the late 1970s and later supervised it. Although the checking in process has become automated and now links electronically to holdings records for the MARC record for each serial title, the manual placement of a stamp or label and placing the issue in a public area has not changed for 50 years. Unless I note otherwise below in reference to a specific serial publication, it is my expert opinion that this standard protocol was followed for all of the serial publications discussed below.

V. PUBLICATIONS IN THIS PROCEEDING

A. “Visual Perception of Obstacles and Vehicles for Platooning” by A. Broggi, M. Bertozzi, A. Fascioli, C. Guarino Lo Bianco, and A. Piazzì. (“Broggi”) [Exhibit 1005]

49. Attached hereto as Exhibit 1005 is a copy of the article titled “Visual Perception of Obstacles and Vehicles for Platooning” by A. Broggi, M. Bertozzi, A. Fascioli, C. Guarino Lo Bianco, and A. Piazzì (hereafter “Broggi”). The Broggi article was published in Volume 1, Number 1 of the journal titled *IEEE Transactions on Intelligent Transportation Systems* and was found in the University of Wisconsin – Madison Libraries. The Broggi article appears beginning on page 164 of this issue dated September 2000. Exhibit 1005 is a true and correct copy of the Broggi article (pages 164-176) that I understand is being submitted as an exhibit in this proceeding. Specifically, the text of the article is complete; no pages are missing, and the text on each page appears to flow

seamlessly from one page to the next; further, there are no visible alterations to the document. Exhibit 1005 was found within the custody of a library – a place where an authentic copy of this journal would likely be. Exhibit 1005 is a true and correct copy in a condition that creates no suspicion about its authenticity.

50. The Broggi article is also available from the *IEEE Xplore* database,¹¹ the Association for Computing Machinery *ACM Digital Library*,¹² and the digital repositories *ResearchGate*¹³ and *Semantic Scholar*.¹⁴ The IEEE Xplore data website indicates a September 30, 2000, publication date. The *ACM Digital Library* website indicates a September 1, 2000, publication date.

51. Attached hereto as Attachment 1A is a true and correct copy of the MARC record for the journal titled *IEEE Transactions on Intelligent Transportation Systems* at the University of Wisconsin – Madison Libraries online catalog. The library ownership is indicated by the presence of the library’s code (“GZZ”) in field 049. The library continues to update and enhance this MARC

¹¹ <https://ieeexplore.ieee.org/document/892153>

¹² <https://dl.acm.org/doi/abs/10.1109/6979.892153>

¹³

https://www.researchgate.net/publication/220109174_Visual_perception_of_obstacles_and_vehicles_for_platooning

¹⁴ <https://www.semanticscholar.org/paper/Visual-perception-of-obstacles-and-vehicles-for-Broggi-Bertozzi/5825b620edd8928d5265439a87ab6afc6fc5f623>

record to meet current cataloging rules. The most recent enhancement to Attachment 1A occurred on March 23, 2018, as shown in field 005 (“20180323”). I personally identified and retrieved the MARC record that is Attachment 1A.

52. Based on finding a copy of Exhibit 1005 in the University of Wisconsin – Madison Libraries and MARC record in its online library catalog attached as Attachment 1A, it is my opinion that the Broggi article published in the journal titled *IEEE Transactions on Intelligent Transportation Systems* was publicly available on or shortly after September 1, 2000, as indicated on the *ACM Digital Library* website (see ¶47). Attachment 1A also shows that Exhibit 1005 was catalogued with two descriptor terms reading “Electronics in transportation \$v Periodicals” (see Attachment 1B, Library of Congress subject heading sh85042415 and Attachment 1C, Library of Congress subject heading sh85099890) and “Intelligent transportation systems \$v Periodicals” (see Attachment 1D, Library of Congress subject heading sh93002804 and Attachment 1C, Library of Congress subject heading sh85099890) in the 650 fields.

53. As noted in the holdings information (362 field), the University of Wisconsin – Madison Libraries began receiving the journal titled *IEEE Transactions on Intelligent Transportation Systems* in March 2000 with volume 1, issue 1 of the journal, and continues to receive the publication. In view of the MARC record for Exhibit 1005, the Broggi article was publicly available on or

shortly after September 1, 2000, because the serial title had been received, cataloged, and indexed at the University of Wisconsin – Madison Libraries and made part of its online catalog database.

54. Attached hereto as Attachment 1E is a true and correct copy of the MARC record for the journal titled *IEEE Transactions on Intelligent Transportation Systems* obtained from the OCLC bibliographic database. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 1E, that library code is “NSD,” which means that the MARC record for this serial was cataloged as part of the National Serials Data Program at the Library of Congress. As can be seen in the “Entered” field in the MARC record for this exhibit, a cataloger at the Library of Congress created OCLC record number 41297384 on May 4, 1999 (“990504”), as shown in field 008 (“Date entered on file”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 1E occurred on August 9, 2022, as shown in field 005 (“20220809”). I personally identified and retrieved the MARC record that is Attachment 1E. The “BLvl” entry in Attachment 1E is “s,” which indicates that the journal titled *IEEE Transactions on Intelligent Transportation Systems* is a serial publication. Field 310 of Attachment 1E reads “Quarterly.” Accordingly, the MARC record for Exhibit 1005 corresponds to the journal titled *IEEE Transactions on Intelligent*

Transportation Systems from the time the serial title began and includes the date of the Broggi article.

55. Attachment 1E includes an entry in field 050 (“TA1235 \$b .I327”)—as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system) and an entry in field 082 (“629”)—as described above, a subject matter classification number consistent with the Dewey Decimal classification system. Attachment 1E further includes two descriptor terms reading “Electronics in transportation \$v Periodicals” (see Attachment 1B, Library of Congress subject heading sh85042415 and Attachment 1C, Library of Congress subject heading sh85099890) and “Intelligent transportation systems \$v Periodicals” (see Attachment 1D, Library of Congress subject heading sh93002804 and Attachment 1C, Library of Congress subject heading sh85099890) in the 650 fields. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 1E was indexed according to its subject matter by virtue of at least three independently sufficient classifications: the field 050 entry, the field 082 entry, and the field 650 entries. As of May 4, 1999, the MARC record attached hereto as Attachment 1E was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that subscribed to the serial, which means that the Broggi article was

publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

56. WorldCat indicates that the journal titled *IEEE Transactions on Intelligent Transportation Systems* as cataloged at the Library of Congress is currently available from 699 libraries.¹⁵ In view of the above, this issue of the journal titled *IEEE Transactions on Intelligent Transportation Systems* was publicly available on or shortly after September 1, 2000, because by that date it had been cataloged and indexed at the Library of Congress, made part of the OCLC bibliographic database, and received at the University of Wisconsin – Madison Libraries. For these reasons, it is my opinion that Exhibit 1005 was published and accessible to the public at least by September 1, 2000.

B. “Object Recognition Using Alignment” by Daniel P. Huttenlocher and Shimon Ullman. In *Image Understanding Workshop: Proceedings of a Workshop*, vol. 1, pp. 370-380. San Mateo, CA: distributed by Morgan Kaufmann, 1987. (“Huttenlocher”) [Exhibit 1006]

57. Attached hereto as Exhibit 1006 is a copy of an excerpt from the two-volume set titled *Image Understanding Workshop: Proceedings of a Workshop* sponsored by the Defense Advanced Research Projects Agency, Software and Intelligent Systems Technology Office (DARPA) and found in the Carlson Science & Engineering Library at the University of Rochester (Rochester, New York). The

¹⁵ <https://search.worldcat.org/title/41297384>

workshop was held on February 23-25, 1987, in Los Angeles, California. The excerpt is a paper titled “Object Recognition Using Alignment” by Daniel P. Huttenlocher and Shimon Ullman (hereafter “Huttenlocher”) which appears in Volume 1 on pages 370-380. Exhibit 1006 is a true and correct copy of the Huttenlocher paper that I obtained from the Carlson Science & Engineering Library at the University of Rochester. Specifically, the text of the Huttenlocher paper is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. Exhibit 1006 was found within the custody of a library – a place where, if authentic, a copy of this two-volume set would likely be. Exhibit 1006 is a true and correct copy in a condition that creates no suspicion about authenticity.

58. Attached hereto as Attachment 2A is a true and correct copy of the MARC record for this two-volume set from the Carlson Science & Engineering Library at the University of Rochester online catalog. Library ownership is indicated by the presence of the library’s code (“RRR”) in the 049 field. The library continues to update this MARC record and enhanced the MARC record to meet current cataloging rules. I personally identified and retrieved the library catalog record which is Attachment 2A.

59. Based on finding a print copy of Exhibit 1006 in the Carlson Science & Engineering Library at the University of Rochester and MARC record in its

online library catalog attached as Attachment 2A, it is my opinion that the two-volume set titled *Image Understanding Workshop: Proceedings of a Workshop* was cataloged in the Carlson Science & Engineering Library at the University of Rochester on September 26, 1989, as shown in field 008 (“890926”). The two-volume set was publicly available in the Carlson Science & Engineering Library at the University of Rochester as of September 26, 1989.

60. Attached hereto as Attachment 2B is a true and correct copy of the MARC record for the two-volume set titled *Image Understanding Workshop: Proceedings of a Workshop* obtained from the OCLC bibliographic database. I personally identified and retrieved the MARC record that is Attachment 2B. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 2B, that library code is “IGA,” which means that the MARC record for this two-volume set was created at the Dallas Public Library (Dallas, Texas). As can be seen in field 008 (“Date entered on file”) in the MARC record for this exhibit, a cataloger at the Dallas Public Library created OCLC record number 20395400 on September 26, 1989 (“890926”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 2B occurred on November 28, 2023, as shown in field 005 (“20231128”). I personally identified and retrieved the MARC record that is Attachment 2B.

61. Attachment 2B further includes an entry in field 090 (“TA632 \$b .I4”) —as described above, a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system). Attachment 2B also shows that Exhibit 1006 was catalogued with three descriptor terms reading “Image processing \$x Digital techniques \$v Congresses” (see Attachment 2C, Library of Congress subject heading sh2008104266), “Computer vision \$v Congresses” (see Attachment 2D, Library of Congress subject heading sh2008101162), and “Optical pattern recognition \$v Congresses” (see Attachment 2E, Library of Congress subject heading sh2008108668) in the 650 fields. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 2B was indexed according to its subject matter by virtue of at least two independently sufficient classifications: the field 050 entry and the field 650 entries. Further, as of September 26, 1989, the MARC record attached hereto as Attachment 2B was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that acquired the two-volume set, which means that the corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

62. WorldCat indicates that the two-volume set titled *Image*

Understanding Workshop: Proceedings of a Workshop as cataloged at the Dallas Public Library is currently available from 39 libraries.¹⁶ In view of the above, the print version of the two-volume set titled *Image Understanding Workshop: Proceedings of a Workshop* was publicly available on September 26, 1989, because by that date it had been cataloged and indexed in the Dallas Public Library, made part of the OCLC bibliographic database, and received in the Carlson Science & Engineering Library at the University of Rochester. For these reasons, it is my opinion that Exhibit 1006 was published and publicly accessible at least by September 26, 1989.

C. *Automatic Vehicle Guidance: the Experience of the ARGO Autonomous Vehicle* by Alberto Broggi, Massimo Bertozzi, Gianni Conte, and Alessandra Fascioli. River Edge, NJ: World Scientific Publishing Company, 1999. (“Bertozzi”) [Exhibit 1008]

63. Attached hereto as Exhibit 1008 is a copy of a book titled *Automatic Vehicle Guidance: the Experience of the ARGO Autonomous Vehicle* by Alberto Broggi, Massimo Bertozzi, Gianni Conte, and Alessandra Fascioli (hereafter “Bertozzi”) and issued by World Scientific in 1999. Exhibit 1008 is a true and correct copy of the title page, copyright page, preface, acknowledgement, [table of] contents, eight chapters, three appendices, and bibliography as held by the Morgan Library at Colorado State University (Fort Collins, Colorado). I obtained Exhibit

¹⁶ <https://search.worldcat.org/title/20395400>

1008 from the publisher's website¹⁷ and Exhibit 1008 is a copy of the entire book. The text in Exhibit 1008 is complete; no pages are missing, and the text on each page appears to flow seamlessly from one page to the next; further, there are no visible alterations to the document. Exhibit 1008 is a true and correct copy in a condition that creates no suspicion about its authenticity.

64. Attached hereto as Attachment 3A is a true and correct copy of the MARC record for this monograph from the Morgan Library at Colorado State University online catalog. The library ownership is indicated by the presence of the library's code ("COF") in the 049 field. The library continues to update this MARC record and enhanced the MARC record to meet current cataloging rules. The most recent enhancement to the MARC record occurred on May 21, 2018, as shown in field 005 ("20180521"). I personally identified and retrieved the library catalog record which is Attachment 3A.

65. The International Standard Book Number (ISBN) on Exhibit 1008 (981-02-3720-0) matches the ISBN in field 020 of Attachment 3A. Therefore, Exhibit 1008 is the same book as the one that the cataloger in the Morgan Library at Colorado State University used to create the MARC record that is Attachment

17

https://www.worldscientific.com/worldscibooks/10.1142/3986?srsId=AfmBOoqA50hsGB_sxgyGsOkPmrlQKTysPz7-iRnCoY_OZodbkY4z5gTs#t=aboutBook

3A. Therefore, the book titled *Automatic Vehicle Guidance: the Experience of the ARGO Autonomous Vehicle* (Exhibit 1008) was present and cataloged in the Morgan Library at Colorado State University (Fort Collins, Colorado) after September 27, 1999 (“990927”), as shown in field 008. It would have been able to be located by a person of ordinary skill in the art using the library catalog system and was thus publicly accessible as of this date.

66. Attached hereto as Attachment 3B is a true and correct copy of the MARC record for the book titled *Automatic Vehicle Guidance: the Experience of the ARGO Autonomous Vehicle* obtained from the OCLC bibliographic database. I personally identified and retrieved the MARC record that is Attachment 3B. As previously noted, the library that created the record is recorded in field 040 with a unique library code. For Attachment 3B, that library code is “OKS,” which means that the MARC record for this book was created at the Oklahoma State University Libraries (Stillwater, Oklahoma). As can be seen in field 008 (“Date entered on file”) the MARC record for this exhibit, a cataloger in the Oklahoma State University Libraries created OCLC record number 42443141 on September 27, 1999 (“990927”), as shown in field 008 (“Date entered on file”). The library continues to update and enhance this MARC record to meet current cataloging rules. The most recent enhancement to Attachment 3B occurred on July 12, 2024, as shown in field 005 (“20240712”). I personally identified and retrieved the

MARC record that is Attachment 3B.

67. Attachment 3B further includes an entry in field 050 (“TE228.3 \$b .A98 1999”)—as described above, this includes a subject matter classification number consistent with the Library of Congress classification system (analogous to the Dewey Decimal classification system) and an entry in field 082 (“629.283”), a subject matter consistent with the Dewey Decimal classification system. Attachment 3B further includes three descriptor terms reading “Automobile driving \$x Automation” (see Attachment 3C, Library of Congress subject heading sh85010133 and Attachment 3D, Library of Congress subject heading sh85010116), “Intelligent transportation systems” (see Attachment 1D, Library of Congress subject heading sh93002804), and “Motor vehicles \$x Automatic control” (see Attachment 3E, Library of Congress subject heading sh85087597 and Attachment 3F, Library of Congress subject heading sh85010089) in the 650 fields. Thus, as of its cataloging, the publication corresponding to the MARC record attached hereto as Attachment 3B was indexed according to its subject matter by virtue of at least three independently sufficient classifications: the field 050 entry, the field 082 entry, and the field 650 entries. Further, as of September 27, 1999, the MARC record attached hereto as Attachment 3B was accessible through any library with access to the OCLC bibliographic database or the online catalog at a library that added this book to its collection, which means that the

corresponding publication was publicly available on or before that same date through any library with access to the OCLC bibliographic database or through an individual library.

68. WorldCat indicates that the Bertozzi book as cataloged in the Oklahoma State University Libraries is currently available from 123 libraries.¹⁸ In view of above, the Bertozzi monograph was publicly available on or shortly after September 27, 1999, because by that date it had been cataloged and indexed in the Oklahoma State University Libraries, made part of the OCLC bibliographic database, and received in the Morgan Library at Colorado State University. For these reasons, it is my opinion that Exhibit 1008 was published and accessible to the public on or shortly after September 27, 1999.

VI. SUMMARY OF OPINIONS

69. In view of the foregoing, it is my opinion that the publications described above were publicly available no later than the corresponding date listed in the table below:

¹⁸ <https://search.worldcat.org/title/42443141>

Exhibit	Publication	Publicly Available By
1005	Broggi, A., M. Bertozzi, A. Fascioli, C. Guarino Lo Bianco, and A. Piazzzi. “Visual Perception of Obstacles and Vehicles for Platooning.” <i>IEEE Transactions on Intelligent Transportation Systems</i> , vol. 1, no. 3 (September 2000): 164-176.	September 1, 2000
1006	Huttenlocher, Daniel P., and Shiman Ullman. “Object Recognition Using Alignment.” <i>Image Understanding Workshop: Proceedings of a Workshop</i> (vol. 1, pp. 370-380). 2 vols. U.S. Defense Advanced Research Projects Agency. San Mateo, CA: Distributed by Morgan Kaufmann Publishers, 1987.	September 26, 1989
1008	Broggi, Alberto, Massimo Bertozzi, Gianni Conte, and Alessandra Fascioli. <i>Automatic Vehicle Guidance: the Experience of the ARGO Autonomous Vehicle</i> . River Edge, NJ: World Scientific Publishing Company, 1999.	September 27, 1999

70. In signing this Declaration, I recognize that the Declaration will be filed as evidence in a case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

71. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

December 31, 2024


Sylvia D. Hall-Ellis, Ph.D.

Attachment 1A

MARC Bibliographic Record

LEADER 02053cas a2200505 a 4500

001 9949600113602122

005 20180323033008.0

008 990504c20009999nyuqr1p 0 a0eng d

010 \$asn 99008601

012 \$k1\$l1\$m0

022 0_ \$a1524-9050

035 \$a(OCOLC)ocm41297384

035 \$a4960011

035 \$a(WU)4960011-uwmadisondb

035 \$a(EXLNZ-01UWI_NETWORK)999892583002121

037 \$bIEEE Service Center, 445 Hoes Lane, P.O. Box 1331,
Piscataway, NJ 08855-1331

040 \$aNSD\$beng\$cNSD\$dRBN\$dCUS\$dNSD\$dVA@dWAU\$dIEEEX\$dDLC\$dNSD\$dGZM

042 \$ansdp\$a1c

049 \$aGZZK

050 00 \$aTA1235\$b.I327

082 10 \$a629\$213

098 11 \$aS\$aIN5\$aEL24\$aT\$aITS

- 210 0_ \$aIEEE trans. intell. transp. syst.\$b(Print)
- 222 _0 \$aIEEE transactions on intelligent transportation systems\$b(Print)
- 245 00 \$aIEEE transactions on intelligent transportation systems :\$ba publication of the IEEE Intelligent Transportation Systems Council.
- 246 2_ \$aInstitute of Electrical and Electronics Engineers transactions on intelligent transportation systems
- 246 30 \$aIntelligent transportation systems
- 260 \$aNew York, NY :\$bInstitute of Electrical and Electronics Engineers,\$c2000-
- 300 \$avolumes :\$billustrations ;\$c28 cm
- 310 \$aQuarterly
- 336 \$atext\$btxt\$2rdacontent
- 337 \$aunmediated\$bn\$2rdamedia
- 338 \$avolume\$bnc\$2rdacarrier
- 362 0_ \$aVol. 1, no. 1 (Mar. 2000)-
- 500 \$aTitle from cover.
- 530 \$aAlso available by subscription via the World Wide Web.
- 650 _0 \$aElectronics in transportation\$vPeriodicals.
- 650 _0 \$aIntelligent transportation systems\$vPeriodicals.
- 710 2_ \$aInstitute of Electrical and Electronics Engineers.

710 2_ \$aIEEE Intelligent Transportation Systems Council.

776 1_ \$tIEEE transactions on intelligent transportation systems
(Online)\$x1558-0016\$w(DLC) 2002252812\$w(OCOLC)45225803

850 \$aDLC

891 20 \$81\$av.\$bno.\$u4\$vr\$i(year)\$j(month)\$wq\$x03

891 41 \$81.1\$a1\$b1\$i2000\$j03

994 \$aC0\$bGZM

997 \$aMARCIVE

MMS IDs**Document ID:**

999892583002121

Network Electronic IDs:**Network Physical IDs:**

999892583002121

mms_mad_ids:

9949600113602122

mms_ml_ids:

9914083583402124

Attachment 1B

[The Library of Congress](#)>> [Go to Library of Congress Online Catalog](#)

LIBRARY OF CONGRESS AUTHORITIES



Help	New Search	Search History	Headings List	Start Over
Previous		Next		
MARC Display		Labelled Display		

LC control no.: sh 85042415**LCCN Permalink:** <https://lcn.loc.gov/sh85042415>**HEADING:** Electronics in transportation

000 00407cz a2200169n 450

001 4694312

005 20120323072918.0

008 860211|| anannbabn |a ana

010 __ |a sh 85042415

035 __ |a (DLC)sh 85042415

035 __ |a (DLC)40997

040 __ |a DLC |c DLC |d DLC

053 _0 |a TA1235

150 __ |a Electronics in transportation

550 __ |w g |a Transportation

906 __ |t 9699 |u ---- |v 0

953 __ |a xx00 |b td14

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Select Download Format:	Text (Labelled Display) Press to SAVE or PRINT
Email Text (Labelled Display) to:	
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LC control no.: sh 85099890

LCCN Permalink: <https://lcn.loc.gov/sh85099890>**HEADING:** Periodicals

000 01324cz a2200337n 450

001 4749694

005 20120717060125.0

008 860211 | anannbabn |b ana

010 __ |a sh 85099890

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040 __ |a DLC |c DLC |d DLC

053 _0 |a AP |c General periodicals

053 _0 |a PN4700 |b PN5650 |c History

150 __ |a Periodicals

360 __ |i subdivision |a Periodicals |i under specific subjects, e.g. |a Engineering--Periodicals; United States--History--Periodicals

450 __ |a Journals (Periodicals)

450 __ |a Magazines

550 __ |w g |a Library materials

550 __ |w g |a Mass media

550 __ |w g |a Serial publications

550 __ |a Newspapers

550 __ |a Press

670 __ |a UMI business vocab. |b (Journals)

680 __ |i Here are entered works on the periodicals of the world and, with appropriate subdivisions, works on special aspects or sections of periodicals. Works on periodicals in a specific language, or in a specific country or larger area, are entered under the adjectival form of the language or area, e.g. |a Arabic periodicals; Canadian periodicals.

906 __ |t 0420 |u te03 |v 0

910 __ |a Proposal saved by tc03 on 05/14/2012 at 17:15:30

953 __ |a xx00 |b td14

906 __ |t 1206 |v 0

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**LC control no.:** sh 93002804**LCCN Permalink:** <https://lcn.loc.gov/sh93002804>**HEADING:** Intelligent transportation systems

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053 _0 |a TE228.3
150 __ |a Intelligent transportation systems
450 __ |a Advanced Road Traffic Systems
450 __ |a Advanced Transport Telematics
450 __ |a ATT (Highway communications)
450 __ |a Intelligent Road Transportation Systems
450 __ |w nne |a Intelligent Vehicle Highway Systems
450 __ |a IRTS (Highway communications)
450 __ |a ITS (Highway communications)
450 __ |a IVHS (Highway communications)
450 __ |a Road Transport Informatics
450 __ |a RTI (Highway communications)
450 __ |a Vehicle Information and Communication Systems
450 __ |a VICS (Highway communications)
550 __ |w g |a Electronics in transportation
550 __ |w g |a Highway communications
550 __ |w g |a Mobile communication systems

- 550** __ |w g |a Sociotechnical systems
- 670** __ |a Work cat.: 93010043: Underwood, G. Information technology on the move : technical and behavioural evaluations of mobile telecommunications, c1994 |b (Road Transport Informatics (RTI), Vehicle Information and Communication Systems (VICS), and Intelligent Vehicle Highway Systems (IVHS))
- 670** __ |a Planning, Jan. 1992, Intelligent Vehicle/Highway Systems (IVHS): |b p. 12 (The system would allow motorists to learn of highway tie-ups before leaving home by tuning into a special traffic information channel on their television sets. Helicopter surveillance, sensors buried in the pavement, and feedback from computer-equipped cars moving through, or stalled in, the system would furnish the data for audio and print instructions and map displays.)
- 670** __ |a ASTI: |b p. 1141, under Intelligent Vehicle-Highway Systems.
- 670** __ |a Engr. index: |b v. 89, pt. VII, p. 5023 (Intelligent Vehicle Highway System(s), IVHS)
- 670** __ |a LC database, April 14, 1993 |b (IVHS, Intelligent Vehicle Highway System)
- 670** __ |a Intelligent Vehicle Highway Systems, 1992: |b p. 5 (Road Transport Informatics (RTI), also known as Advanced Transport Telematics (ATT) and Intelligent Vehicle/Highway Systems (IVHS))
- 670** __ |a IVHS issues and technology, 1992: |b p. 1 (Intelligent Road Transportation Systems (IRTS))
- 670** __ |a Guidelines for transportation management systems maintenance, 2002 via U.S. Federal Highway Administration website, Aug. 24, 2005: |b glossary (Intelligent Vehicle-Highway Systems; now known as: intelligent transportation systems)
- 670** __ |a U.S. Dept. of Transportation Intelligent Transportation Systems website, Aug. 21, 2005: |b (intelligent transportation systems (ITS))
- 670** __ |a LC Science tracer bullet 95-1 |b (Intelligent transportation systems, also known as intelligent vehicle highway systems)
- 675** __ |a Americana; |a McGraw-Hill dict. sci. tech.; |a Random House; |a Web. 3
- 906** __ |t 0834 |u te04 |v 0
- 910** __ |a Proposal saved by tc03 on 01/14/2016 at 08:56:38
- 953** __ |a jf08 |b ym04
- 906** __ |t 1602 |v 0

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Attachment 1E

Bibliographic Record - OCLC Number: 41297384

LDR	Record Status	'c' - Corrected or revised
	Type of Record	'a' - Language material
	Bibliographic Level	's' - Serial
	Type of Control	' ' - No specified type of control
	Encoding Level	' ' - Full level
	Descriptive Cataloging Form	'a' - AACR2
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005	20220809170319.0	
008	Date Entered on File	'990504'
	Type of Date/Publication Status	'c' - Continuing resource currently published
	Date1/Beginning Date of Publication	'2000'
	Date2/Ending Date of Publication	'9999'
	Place of Publication, Production, or Execution Code	'nyu' - New York
	Frequency	'q' - Quarterly
	Regularity	'r' - Regular
	Type of Continuing Resource	'p' - Periodical
	Form of Original Item	' ' - None of the following
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	Nature of Entire Work	' ' - No specified nature of entire work
	Nature of Contents	' '
	Government Publication	' ' - Not a government publication
	Conference Publication	'0' - Not a conference publication
	Original Alphabet or Script of Title	'a' - Basic Roman
	Entry Convention	'0' - Successive entry
	Language Code	'eng' - English
	Modified Record	' ' - Record is not modified
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	Antecedent/Source (c)	' ' - No attempt to code
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	Reformatting Quality (c)	' ' - No attempt to code
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 210 0 IEEE trans. intell. transp. syst. \$b (Print)
 222 0 IEEE transactions on intelligent transportation systems \$b (Print)
 245 0 0 IEEE transactions on intelligent transportation systems.
 246 2 Institute of Electrical and Electronics Engineers transactions on intelligent transportation systems
 246 3 0 Intelligent transportation systems
 260 New York, NY : \$b Institute of Electrical and Electronics Engineers, \$c c2000-
 300 v. : \$b ill. ; \$c 28 cm.
 310 Quarterly
 362 0 Vol. 1, no. 1 (Mar. 2000)-
 500 Title from cover.
 530 Also available by subscription via the World Wide Web.
 550 Publication of: IEEE Intelligent Transportation Systems Council, 2000- ; IEEE Intelligent Transportati
 on Systems Society, <Dec. 2012->
 588 Latest issue consulted: Vol. 13, no. 4 (Dec. 2012).
 650 0 Electronics in transportation \$v Periodicals.
 650 0 Intelligent transportation systems \$v Periodicals.
 650 6 Électronique dans le transport \$v Périodiques.
 650 6 Systèmes de transport intelligents \$v Périodiques.
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 655 7 Periodicals. \$2 fast \$0 (OCoLC)fst01411641
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 710 2 Institute of Electrical and Electronics Engineers.
 710 2 IEEE Intelligent Transportation Systems Council, \$e issuing body.
 710 2 IEEE ITSS, \$e issuing body.
 776 1 \$t IEEE transactions on intelligent transportation systems (Online) \$x 1558-0016 \$w (DLC) 200225
 2812 \$w (OCoLC)45225803
 850 DLC

856 4 1 **\$u** <http://ieeexplore.ieee.org/servlet/opac?punumber=6979>
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 049 ##\$aRRRR
 111 2#\$aDARPA Image Understanding Workshop.
 245 10\$aImage Understanding Workshop : \$bproceedings of a workshop held at ... / \$csponsored
 by Defense Advanced Research Projects Agency, Information Science and Technology Office.
 246 04\$aProceedings
 260 ##\$aSan Mateo, Calif. : \$bDistributed by Morgan Kaufmann Publishers, \$c1987-1993.
 300 ##\$av. : \$bill. ; \$c27 cm.
 310 ##\$aAnnual (irregular)
 362 0#\$aFeb.1987-Apr. 18-21, 1993.
 500 ##\$aSome vols. have also a distinctive cover title.
 500 ##\$aDescription based on: Feb. 23-25, 1987.
 515 ##\$aVols. for 1987-1993 called also:17th-22nd.
 515 ##\$aWorkshop not held in 1991.
 550 ##\$aSponsored by: Defense Advanced Research Projects Agency, Software and Intelligent
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 650 #0\$aImage processing \$xDigital techniques \$vCongresses.
 650 #0\$aComputer vision \$vCongresses.
 650 #0\$aOptical pattern recognition \$vCongresses.
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Attachment 2B

Bibliographic Record - OCLC Number: 20395400

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	Type of Record	'a' - Language material
	Bibliographic Level	's' - Serial
	Type of Control	' ' - No specified type of control
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	Descriptive Cataloging Form	'a' - AACR2
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005	20231128134100.1	
008	Date Entered on File	'890926'
	Type of Date/Publication Status	'd' - Continuing resource ceased publication
	Date1/Beginning Date of Publication	'1984'
	Date2/Ending Date of Publication	'1993'
	Place of Publication, Production, or Execution Code	'cau' - California
	Frequency	'a' - Annual
	Regularity	'x' - Completely irregular
	Type of Continuing Resource	' ' - None of the following
	Form of Original Item	' ' - None of the following
	Form of Item	' ' - None of the following
	Nature of Entire Work	' ' - No specified nature of entire work
	Nature of Contents	' '
	Government Publication	'f' - Federal/national
	Conference Publication	'1' - Conference publication
	Original Alphabet or Script of Title	' ' - No alphabet or script given/no key title
	Entry Convention	'0' - Successive entry
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	Modified Record	' ' - Record is not modified
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090	TA1632 \$b .I4	
111	2 DARPA Image Understanding Workshop.	
245	1 0 Image Understanding Workshop : \$b proceedings of a workshop held at ... / \$c sponsored by Defense Advanced Research Projects Agency, Information Science and Technology Office.	
246	1 4 Proceedings	
260	San Mateo, Calif. : \$b Distributed by Morgan Kaufmann Publishers, \$c -1993.	
300	v. : \$b ill. ; \$c 27 cm.	
310	Annual (irregular)	
362	0 -Apr. 18-21, 1993.	
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500	Some vols. have also a distinctive cover title.	

515 Vols. for <1990>-1993 called also: <20th>-22nd.
 515 Workshop not held in 1991.
 550 Sponsored by: Defense Advanced Research Projects Agency, Software and Intelligent Systems Technology Office, 1992-1993.
 588 Description based on: Feb. 23-25, 1987.
 650 0 Image processing \$x Digital techniques \$v Congresses.
 650 0 Computer vision \$v Congresses.
 650 0 Optical pattern recognition \$v Congresses.
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 650 7 Optical pattern recognition. \$2 fast \$0 (OCoLC)fst01046784
 655 7 Conference papers and proceedings. \$2 fast \$0 (OCoLC)fst01423772
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 710 1 United States. \$b Defense Advanced Research Projects Agency. \$b Software and Intelligent Systems Technology Office.
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LC control no.: sh2008104266

LCCN Permalink: <https://lcn.loc.gov/sh2008104266>**HEADING:** Image processing Digital techniques Congresses

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150 __ |a Image processing |x Digital techniques |v Congresses

667 __ |a Record generated for validation purposes.

670 __ |a Work cat.: Image processing based on partial differential equations, c2007

906 __ |t 8888 |u te00 |v 0

953 __ |a te00

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LC control no.: sh2008101162

LCCN Permalink: <https://lcn.loc.gov/sh2008101162>**HEADING:** Computer vision Congresses

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040 __ |a DLC |b eng |c DLC

150 __ |a Computer vision |v Congresses

667 __ |a Record generated for validation purposes.

670 __ |a Work cat.: Cognitive vision systems, c2006

906 __ |t 8888 |u te00 |v 0

953 __ |a te00

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LC control no.: sh2008108668

LCCN Permalink: <https://lcn.loc.gov/sh2008108668>

HEADING: Optical pattern recognition Congresses

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040 __ |a DLC |b eng |c DLC

150 __ |a Optical pattern recognition |v Congresses

667 __ |a Record generated for validation purposes.

670 __ |a Work cat.: 2005 7th International Conference on Information Fusion (FUSION), c2005

906 __ |t 8888 |u te00 |v 0

953 __ |a te00

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 245 00\$aAutomatic vehicle guidance : \$bthe experience of the ARGO autonomous vehicle /
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 264 #1\$aSingapore ; \$aRiver Edge, NJ : \$bWorld Scientific, \$c[1999]
 264 #4\$c©1999
 300 ##\$axiv, 242 pages : \$billustrations, map ; \$c23 cm
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Attachment 3B

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LDR Record Status 'c' - Corrected or revised
 Type of Record 'a' - Language material
 Bibliographic Level 'm' - Monograph/Item
 Type of Control ' ' - No specified type of control
 Encoding Level '4' - Core level
 Descriptive Cataloging Form 'a' - AACR2

001 42443141
 005 20240712130621.7
 008 Date Entered on File '990927'
 Type of Date/Publication Status 's' - Single date
 Date1/Beginning Date of Publication '1999'
 Date2/Ending Date of Publication ' '
 Place of Publication, Production, or Execution Code 'si' - Singapore
 Illustrations 'ab '
 Target Audience ' ' - Unknown or unspecified
 Form of Item ' ' - None of the following
 Nature of Contents Code 'b '
 Government Publication ' ' - Not a government publication
 Conference Publication '0' - Not a conference publication
 Festschrift '0' - Not a festschrift
 Index '0' - No index
 Literary Form '0' - Not fiction
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 Language Code 'eng' - English
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 082 0 4 629.283 \$2 21
 245 0 0 Automatic vehicle guidance : \$b the experience of the ARGO autonomous vehicle / \$c Alberto Broggi
 i [and others].
 260 Singapore ; \$a River Edge, NJ : \$b World Scientific, \$c ©1999.
 300 xiv, 242 pages : \$b illustrations, map ; \$c 23 cm
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 337 unmediated \$b n \$2 rdamedia
 338 volume \$b nc \$2 rdacarrier
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 Vision -- \$g 3. \$t State of the Art -- \$g Pt. II. \$t The Argo Project -- \$g 4. \$t Algorithms for Image
 Processing -- \$g 5. \$t Hardware Support for Real-Time Image Processing -- \$g 6. \$t The ARGO Ve

hicle -- **\$g** Pt. III. **\$t** The Project's Results -- **\$g** 7. **\$t** The MilleMiglia in Automatico Tour -- **\$g** 8. **\$t** Performance Analysis -- **\$g** 9. **\$t** Closing Remarks. **\$g** App. A. **\$t** Morphological Implementation of the DBS Filter -- **\$g** App. B. **\$t** PAPRICA-3 Programming Environment -- **\$g** App. C. **\$t** Global Communications on PAPRICA-3.

650 0 Automobile driving **\$x** Automation.
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 700 1 Broggi, Alberto.
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 938 YBP Library Services **\$b** YANK **\$n** 1524068
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 029 1 YDXCP **\$b** 1524069
 029 1 ZWZ **\$b** 04662466X
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HEADING: Automobile driving

000 00542cz a2200217n 450

001 4663060

005 20120321074023.0

008 860211i| anannbabn |a ana

010 __ |a sh 85010133

035 __ |a (DLC)sh 85010133

035 __ |a (DLC)9745

040 __ |a DLC |c DLC |d DLC

053 _0 |a TL152.5

150 __ |a Automobile driving

450 __ |a Automobile operation

450 __ |a Automobiles |x Driving

450 __ |a Automobiling

450 __ |a Driving, Automobile

550 __ |w g |a Motor vehicle driving

906 __ |t 8899 |u ---- |v 0

953 __ |a xx00 |b fj01

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LCCN Permalink: <https://lcn.loc.gov/sh85010116>

HEADING: Automation

000 01052cz a2200301n 450

001 4663043

005 20120321074021.0

008 860211i| anannbabn |b ana

010 __ |a sh 85010116

035 __ |a (DLC)sh 85010116

035 __ |a (DLC)9728

040 __ |a DLC |c DLC |d DLC

150 __ |a Automation

360 __ |i subdivision |a Automation |i under names of individual corporate bodies and under types of industries, buildings, processes, systems, and organizations, e.g. |a Construction industry--Automation; |i and subdivision |a Effect of automation on |i under occupational groups and types of employees

450 __ |a Automatic factories

450 __ |a Automatic production

450 __ |a Computer control

450 __ |a Engineering cybernetics

450 __ |a Factories |x Automation

550 __ |w g |a Industrial engineering

550 __ |w g |a Mechanization

550 __ |a Assembly-line methods

550 __ |a Automatic control

550 __ |a Automatic machinery

550 __ |a CAD/CAM systems

550 __ |a Robotics

906 __ |t 9712 |u te03 |v 0

953 __ |a xx00 |b ta25

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LC control no.: sh 85087597

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HEADING: Motor vehicles

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001 4737925

005 20240907060013.0

008 860211i| anannbabn |b ana |

010 __ |a sh 85087597

035 __ |a (DLC)sh 85087597

035 __ |a (DLC)84610

040 __ |a DLC |c DLC |d DLC

053 _0 |a TL

072 _7 |a H 1195 |2 lsh

150 __ |a Motor vehicles

450 __ |a Automotive vehicles

550 __ |w g |a Transportation, Automotive

550 __ |w g |a Vehicles

906 __ |t 71-- |u ---- |v 0

910 __ |a Record saved by tc15 on 09/06/2024 at 07:33:48

953 __ |a xx00

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LC control no.: sh 85010089

LCCN Permalink: <https://lcn.loc.gov/sh85010089>

HEADING: Automatic control

000 00837cz a2200265n 450

001 4663016

005 20130503055912.0

008 860211|| anannbabn |b ana

010 __ |a sh 85010089

035 __ |a (DLC)sh 85010089

035 __ |a (DLC)9701

040 __ |a DLC |c DLC |d DLC

053 _0 |a TJ212 |b TJ225

150 __ |a Automatic control

360 __ |i subdivision |a Automatic control |i under individual technical processes and equipment, e.g. |a Refrigeration and refrigerating machinery--Automatic control

450 __ |a Control engineering

450 __ |a Control equipment

550 __ |w g |a Control theory

550 __ |w g |a Engineering instruments

550 __ |a Automation

550 __ |a Programmable controllers

906 __ |t 9599 |u ---- |v 0

910 __ |a Proposal saved by tc03 on 04/24/2013 at 10:14:00

953 __ |a xx00 |b td04

906 __ |t 1304 |v 1

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