

Notice of Allowability	Application No. 15/444,054	Applicant(s) Pavetic et al.	
	Examiner GREGORY M DESIRE	Art Unit 2664	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed 10/7/19.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are 1-24. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some *c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)	5. ☒ Examiner's Amendment/Comment
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.	6. ☒ Examiner's Statement of Reasons for Allowance
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.	7. ☐ Other _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.	

/GREGORY M DESIRE/ Primary Examiner, Art Unit 2664	
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DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/7/19 has been entered.

Response to Amendment

Examiner acknowledges amended claims 1, 7, 14, 15 and 23.

Allowable Subject Matter

Claims 1-24 allowed.

The following is an examiner's statement of reasons for allowance for independent claims 1, 7, 15 and 23. Regarding claim 1, prior art could not be found for the features providing the training data to train the machine learning model on (i) a set of training inputs comprising the first training input and (ii) a set of target outputs comprising the first target output, wherein the trained machine learning model is to receive a new image as input and to produce a new output based on the new input, the new output

indicating whether the new image is a composite image containing a constituent image. These features in combination with other features could not be found in the prior art. Claims 2-6 depend on claim 1. Therefore are also allowable. Regarding claims 7 and 15, prior art could not be found for the features machine learning model trained using training data comprising pixel data of a plurality of composite images that each include pixel data of respective constituent images; obtain one or more outputs from the trained machine learning model; and extract, from the one or more outputs, a level of confidence that: the first image is a composite image that includes a constituent image, and at least a portion of the constituent image is in a particular spatial area of the image. These features in combination with other features could not be found in the prior art. Claims 8-14 and 16-22 depend on claims 7 and 15, respectively. Therefore are also allowable. Regarding claim 23, prior art could not be found for the feature a spatial area that includes the constituent image within the input image, wherein the trained model was trained using training data comprising pixel data of a plurality of other composite images that each include pixel data of respective other constituent images. This feature in combination with other features could not be found in the prior art claim 24 depend on claim 23. Therefore are also allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREGORY M DESIRE whose telephone number is (571)272-7449. The examiner can normally be reached on Monday-Friday 6:30am-3:00pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

G.D.

October 15, 2019

/GREGORY M DESIRE/
Primary Examiner, Art Unit 2664

<i>Notice of References Cited</i>	Application/Control No. 15/444,054		Applicant(s)/Patent Under Reexamination Pavetic et al.	
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U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20090208118-A1	08-2009	Csurka; Gabriela	G06K9/00664	382/228
*	B	US-20180121732-A1	05-2018	KIM; Ji-man	G06N3/0454	1/1
*	C	US-20180121762-A1	05-2018	Han; Wei	G06K9/4604	1/1
*	D	US-20180260668-A1	09-2018	Shen; Xiaohui	G06N3/084	1/1
*	E	US-10204274-B2	02-2019	Smith, IV; Bartlett Wade	G06F17/28	1/1
*	F	US-10230866-B1	03-2019	Townsend; Matthew Alan	H04N1/2108	1/1
	G					
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
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	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.