Morpho-Net

Élodie Puybareau

elodie.puybareau@lrde.epita.fr

EPITA Research and Development Laboratory


Save
THE
Date

Du **12 au 15 Mai 2020**, dans une contrée fort fort lointaine...

...un événement se prépare !

ICPRAI 2020

Second International Conference on Pattern Recognition and Artificial Intelligence

à Zongshan, en Chine!

Les topics d'ICPRAI

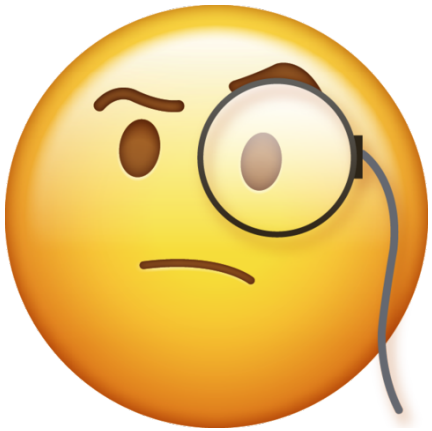
- Reconnaissance de forme, texte, écriture manuscrite, machine learning, réseaux neuronaux, SVM, deep learning et techniques de classification, analyse du langage, analyses sémantiques, techniques innovantes d'enseignement
- Vision par ordinateur, traitement d'images, imagerie médicale, santé
- Intelligence artificielle, images et graphiques 2D et 3D, applications audio et video, extraction de caractéristiques et évaluation
- Sécurité, reconnaissance faciale, empruntes digitales, iris, applications mobile
- Big Data, applications industrielles, financières, transfert technologique, véhicules autonomes, robotique...

$\Longrightarrow$ Special Issue à IJPRAI, livres etc.

Featuring Edwin Hancock and Camille Kurtz

ICPRAI et Machine Learning, ok...

mais la **morpho** dans tout ça ?



Tadaaaaaaam

Avec Nicolas Passat, nous y organisons :
une **session spéciale Machine Learning et Morphologie Mathématique**!

ICPRAI 2020 - Second International Conference on Pattern Recognition and Artificial Intelligence

Proposition of special session on

Influence of Combining Machine Learning and Mathematical Morphology for Image Processing and Analysis

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Short version: Machine Learning and Mathematical Morphology

Proposers:

- (Chair) Dr. Élodie Puybareau, LRDE, EPITA, France
  (elodie.puybareau@lrde.epita.fr)
- (Co-chair) Pr. Nicolas Passat, CReSTIC, University Reims Champagne Ardenne, France
  (nicolas.passat@univ-reims.fr)

Brief biographies of the session proposers

Élodie Puybareau is an Assistant Professor in Computer Science since 2018. She is a member of the Research and Development Laboratory of EPITA (LRDE), France. She obtained her PhD in medical imaging from the Université Paris-Est Marne-la-Vallée (France) in 2016. She was a postdoctoral fellow in between 2017 and 2018. She participates in MICCAI Challenges where she reached top methods rankings in iSeg 2017 (1st and 2nd place for one criterion), WMH 2017 (6th place), Atriaseg 2018 (3rd place) and BraTS 2018 (2nd place) using Deep Learning and mathematical morphology methods. She coadvises one PhD thesis on atrial segmentation using Deep Neural Networks, 2 long-term students on the influence of mathematical morphology on CNN, and has published 14 articles in the fields of computer vision, mathematical morphology and neural networks. See `https://www.lrde.epita.fr/wiki/User:Elodie`

Nicolas Passat is a Professor in Computer Science since 2012. He is Deputy Head of CReSTIC lab, Université de Reims Champagne Ardenne (France). He obtained his PhD in 2005 and his Habilitation in 2011. He participated in 10+ funded research projects and was the PI of the ANR project VIVABRAIN (2012), and local PI of the ANR projects MAIA (2015) and R-Vessel-X (2019). He has coadvised 15+ PhD theses and has published over 100 articles, mainly in the fields of image analysis, mathematical morphology and medical imaging. He is member of the editorial board of JMIV (Springer), and a reviewer for various funding agencies (French ANR, Canadian NSERC, Polish NCN), 25 journals and 12 conferences. He is co-responsible of the CNRS Working Group in Discrete Geometry and Mathematical Morphology. He is member of the Administration Council of the *Société Informatique de France*, and member of the French National Council of Universities (Computer Science section). See `https://crestic.univ-reims.fr/fr/nicolas.passat`

Brief description of the theme and importance of the Session

For more that 50 years, mathematical morphology (MM) has developed strong theoretical and methodological approaches for image processing and analysis, mainly dedicated to filtering and segmentation. In the meantime, a wide range of techniques and tools were developed in the area of machine learning (ML), mainly dedicated to clustering and classification. Both domains remained mostly disconnected for a long time, despite few tentative of collaborative work, e.g. for designing neural networks.

Recent advances in mathematical morphology (with the development of hierarchical and graph-based approaches) and in machine learning (with the raise of deep-learning strategies) have shed light on various promising connections between these two

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Pourquoi une telle session ?

- C'est un **sujet chaud**, de nouveaux articles apparaissent sur le sujet (en France et à l'international)...
- **Failles théoriques** de certaines publis : il faut les guider !
- Faire exister **MorphoNet à l'international**.
- Et bien sûr, **dominer le monde** avec de la morpho !

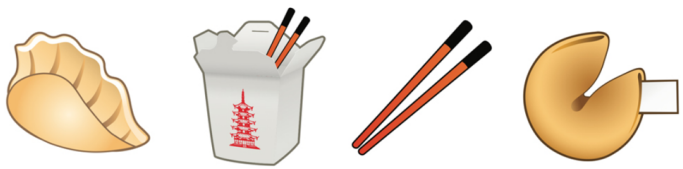
Et en pratique ?

A propos des soumissions...

- Les dates ne sont pas encore connues, probablement entre Novembre et Janvier...
- Nous acceptons des travaux préliminaires, ainsi que des travaux plus aboutis !
- Les actes seront publiés chez LNCS !

Pour les participants :

- 20% de réduction sur votre inscription !
- Possibilité d'être logés (5 nuits) par la conf !
- Je n'ai pas d'indications concernant la qualité de la nourriture et du café, mais je suis sûre que ce sera très bon.



Surveillez vos mails !

On vous attend en Chine du

12 au 15 Mai 2020 !