Zuheng Ming

https://hengxyz.github.io/

Assistant professor (Maître de conférences)

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Professional experiences

09/2022 - so far **Assistant professor (Maître de conférences)**
Institut Galilée, Laboratory L2TI, Sorbonne Paris North University
Multimedia Team

09/2021 - 08/2022 **Lecture-researcher (Enseigant-Chercheur Contractuel)**
Computer science, Laboratory L3i, La Rochelle University
Image and Content Team

09/2016 - 09/2021 **Postdoc / assistant lecture (Vacataire)**
Computer science, Laboratory L3i, La Rochelle University
Image and Content Team
Supervisors: Jean-Christophe Burie, Muriel Visani

09/2014 - 12/2015 **Postdoc**
Computer science, Laboratory LaBRI, Bordeaux University
Image and Audio Team
Supervisor : Aurélie Bugeau

Education background

07/2013 Thesis —— Grenoble Alpes University
Topic: « Spectral Parameters to Cued Speech Parameters Mapping: Multi-linear and GMM approaches (applied to French vowels) »
Supervisors : Gang Feng, Denis Beautemps

07/2008   Master —— Beijing Institut of Technology, China
            Intelligence artificielle et la reconnaissance de forme
            Master thesis: «Measuring the 3D distance of the finger in space based on binocular stereo-vision »
            Supervisors : Yinlin Li

07/2003   Bachelor —— Hunan University, Chine
            Génie des Systèmes Electroniques et Automatique

Teaching experience

- Advance image processing

- Intelligent systems in computer vision

- Deep learning

- Database

- Object-oriented programming

Doctorial Thesis supervision

2019-2022 :   Souhail Bakkali, L3i, University La Rochelle

    Title : Multimodal Document Understanding with Unified Vision and Language Cross-modal Learning Conversational information retrieval models

    Supervisors: Mickaël Coustaty, Zuheng Ming

Master thesis supervision

2022- 2024 :   Bo Zhang, Software school, Northwestern Polytechnical University

    Title : Multimodal Remote Sensing Image Classification

    Supervisors: Zuheng Ming, Kaixing Zhao, Liang He

2022-2024 :   Yaqian Liu, Software school, Northwestern Polytechnical University

    Title : Multimodal Object Detection for Remote Sensing Image

    Supervisors: Zuheng Ming, Kaixing Zhao, Liang He

Internship supervision

2023: BISSMELLA BAHADURI , Master 2nd year, 6 months
Topic: Transformer-based Multimodal Object Detection for Remote Sensing Imagery
Supervisors: Zuheng Ming, Fangchen Feng

2023: Seghira Maiche , Master 2nd year, 6 months
Topic: Use of Artificial Intelligence (AI) for the detection and indexing of advertisements and emotions in videos
Supervisors: Zuheng Ming, Cédric AOUN

2019: Souhail Bakkali, Master 2nd year, 6 months
Topic: 2D face orientation detection

2018: Kaixing Zhao, Master 2nd year, 6 months
Topic: Face authentication by facial expression recognition and audio and video synchronization

2018: Guillaume SAVARIT, Undergraduate 3nd year (last year), 2 months
Topic: Control of a robotic arm by automatic face recognition

2017: EL HAJJAMI Zakaria, Undergraduate 3nd year (last year), 2 months
Topic: Web application for face verification

Research projects

2020-2022   Projet *IDECYS*+ : Face anti-spoofing (*FUI25*)
Project partners : L3I, ARIADNEXT (industriel)
Budget : 405K€   Project duration : 22 mois
Rôle : principal participant

2019-2022   Projet **Document analysis (Research project)***:*
Budget: 60K€   Project duration : 36 mois
Rôle : Co-supervisor with Mickaël Coustaty

2016-2019   Projet *MOBIDEM* : MOBile IDEntity for the Masses. (*FUI 21*)
Project partners : L3I, EPITA, ARIADNEXT (industriel)
Budget : 556K€(L3i)/3.8M€   Project duration : 30 mois
Rôle : principal participant

2014-2015   Projet Idex *SEDUCTION:* Social affects Discrimination Using Combined acoustic and visual information. (*Projet IDEX*)
Project partners: LaBRI, Université de Kyoto (Japon)
Budget: 95k€   Durée du projet : 16 mois
Rôle : principal participant

International collaborations :

- ☐ 2023-so far School of Software (Northwestern Polytechnical University)
- ☐ 2022-so far School of Electronic Engineering, Xidian University
- ☐ 2021-2022 Center for Machine Vision and Signal Analysis (Université de Oulu, Finlande)
- ☐ 2019-so far Computer Vision Center (CVC, Universitat Autonoma de Barcelona, Espagne)
- ☐ 2020 RAS (Fédération de Russie, Académie des sciences de Russie)
- ☐ 2020 RIKEN AIP (Japon)

Organisations:

- ICIP2023 Challenge Object Detection Under Uncontrolled Acquisition Environment and Scene Context Constraints
- 11th European Workshop on Visual Information Processing (EUVIP, IEEE)
- 15TH IAPR INTERNATIONAL WORKSHOP ON DOCUMENT ANALYSIS SYSTEMS (DAS2022)
- 20th International Conference on Computational Linguistics and Intelligent Text Processing, 2019]

Guest Editor:

- *Special Issue* "Deep Learning Approach for Secure and Trustworthy Biometric System" *on MDPI Electronics (IF=2.69)*

Invited reviewer :

- IEEE Transactions on Multimedia (IEEE TMM, JCR Q1)
- IEEE Transactions on Circuits and Systems for Video Technology (IEEE TCSVT, JCR Q1)
- Neurocomputing (Springer, JCR Q2)
- Computer Vision and Image Understanding (Springer, JCR Q2)
- International Journal on Document Analysis and Recognition (Springer IJDAR, JCR Q2)
- Signal Image and Video Processing (Springer, JCR Q4)
- Sensors (MPDI, JCR Q2)
- ICIP'23, ICPR'18,20,22, ICDAR'17,19, PRICAI'21,22

Release dataset

- 2021   MIDV-2020: A Comprehensive Benchmark Dataset for Identity Document Analysis.

Publications:

[International journals]:

[J8] Liu, Shiruo, Xiaoguang Yuan, Wei Feng, Aifeng Ren, Zhenyong Hu, Zuheng Ming, Adnan Zahid, Qammer H. Abbasi, and Shuo Wang. "A Novel Heteromorphic Ensemble Algorithm for Hand Pose Recognition." Symmetry 15, no. 3 (2023): 769. (***JCR Q2, IF 2.7***)

[J7] Souhail Bakkali, **Zuheng Ming**, Mickaël Coustaty, Marçal Rusiñol., 2022. VLCDoC: Vision-Language Contrastive Pre-Training Model for Cross-Modal Document Classification. Pattern Recognition. ***(JCR Q1, IF 8.15)***

[J6] Mondal, T., Das, A. and **Ming, Z**., 2022. Exploring Multi-Tasking Learning in Document Attribute Classification. Pattern Recognition Letters ***(JCR Q2, IF 5.1)***

[J5] Dmitry V. Polevoy , Irina V. Sigareva , Vladimir V. Arlazarov , Dmitry P. Nikolaev , **Zuheng Ming** , Muhammad Muzzamil Luqman and Jean-Christophe Burie, 2022. Document Liveness Challenge dataset (DLC-2021). submit to Journal of Imaging, *2022 **(JCR Q3, IF 3.81)***

[J4] Bulatov, K., Emelianova, E., Tropin, D., Skoryukina, N., Chernyshova, Y., Sheshkus, A., Usilin, S., **Ming, Z**., Burie, J.C., Luqman, M.M. and Arlazarov, V.V., 2021. MIDV-2020: A Comprehensive Benchmark Dataset for Identity Document Analysis. Journal computer optics, 2022 (***SJR Q2, Impact Score 2.97***)

[J3] Souhail Bakkali, **Zuheng Ming**, Mickaël Coustaty, Marçal Rusiñol "EAML: Ensemble Self-Attention-based Mutual Learning Network for Document Image", International Journal on Document Analysis and Recognition (IJDAR) ***2021 (JCR Q3, IF 2.3)***

[J2] **Zuheng Ming**, Muriel Visani, Muhammad Muzzamil Luqman, Jean-Christophe Burie "A Survey On Anti-Spoofing Methods For Face Recognition with RGB Cameras of Generic Consumer Devices", Journal of Imaging, 2020, ***(JCR Q3, IF 3.81)***

[J1] **Zuheng Ming**, Muhammad Muzzamil Luqman, Jean-Christophe Burie "Cross-modal Multi-task Learning for Graphic Recognition of Caricature Face", International Journal on Document Analysis and Recognition (IJDAR) 2020, ***(JCR Q3, IF 2.3)***

[International conferences]:

[C13] **Ming, Zuheng**, Zitong Yu, Musab Al-Ghadi, Muriel Visani, Muhammad MuzzamilLuqman, and Jean-Christophe Burie. "ViTransPAD: Video Transformer using convolution and self-attention for Face Presentation Attack Detection." submit to ICIP2022. (***Core rank B***)

[C12] Souhail Bakkali, **Zuheng Ming**, Mickaël Coustaty, Marçal Rusiñol and Oriol Ramos Terrades "CMDoC: Cross-Modal Learning for Document Classification." submit to IJCAI-ECAI2022. (*Core rank A+*)

[C11] Souhail Bakkali, **Zuheng Ming**, Mickaël Coustaty, Marçal Rusiñol "Cross-Modal Deep Networks for Document Image Classification", IEEE International Conference on Image Processing (ICIP) 2020, United Arab Emirates (*Core rank B*)

[C10] **Zuheng Ming**, XIA, Junshi, LUQMAN, Muhammad Muzzamil, et al. "FaceLiveNet+: A Holistic Networks For Face Authentication Based On Dynamic Multi-task Convolutional Neural Networks." arXiv preprint arXiv:1902.11179, 2019.

[C9] Junshi Xia, **Zuheng Ming** "CLASSIFICATION OF HYPERSPECTRAL AND LIDAR WITH DEEP ROTATION FOREST," in the 44th International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019, Brighton (*Core rank B*)

[C8] **Z. Ming**, J. Chazalon, M. M. Luqman, M. Visani and J. C. Burie, "FaceLiveNet: End-to-End Networks Combining Face Verification With Interactive Facial Expression-based Liveness Detection," in 24th International Conference on Pattern Recognition (ICPR) 2018 (*Core rank B*)

[C7] Junshi XIA, **Zuheng MING**, Akira IWASAKI, "Multiple sources data fusion via Deep Forest," in IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2018

[C6] Shochi, T., Rouas, J. L., **Z. Ming**, Guerry, M., Bugeau, A., & Donna, E.. Cultural differences in pattern matching: multisensory recognition of socio-affective prosody. In International Congress of Psychology. 2016, July

[C5] **Z. Ming**, A. Bugeau, , J.L. Rouas, T . Shochi, "Facial Action Units intensity estimation by the fusion of features with multi-kernel Support Vector Machine". In: 11th IEEE International Conference and Workshops on Automatic Face and Gesture Recognition (FG 2015). Vol. 6. IEEE. 2015, pp. 1–6.

[C4] T. Nishida, M. Abe, T. Ookaki, D. Lala, S. Thovuttikul, H. Song, Y. Mohammad, C. Nitschke, Y. Ohmoto, A. Nakazawa, T. Shochi, J.-L. Rouas, A. Bugeau, F. Lotte, **Z. Ming**, G. Letournel, M. Guerry, D. Fourer– Synthetic Evidential Study as Augmented Collective Thought Process – Preliminary Report– International scientific conference for research in the field of intelligent information and database systems (ACIIDS), 2015.

[C3] **Z. Ming**, B. Denis, F. Gang, "GMM mapping of visual features of cued speech from speech spectral features", 12th International Conference on Auditory-Visual Speech Processing (AVSP 2013, pp. 191-196, Aug 2013.

[C2] **Z. Ming**, Feng, G., & Beautemps, D. (2012, June). Mapping de l'espace spectral vers l'espace visuel de la parole : Les voyelles du Français en Langue Française Parlée Complétée. In 14ème édition des Rencontres des Étudiants Chercheurs en Informatique pour le Traitement Automatique des Langues (JEP-TALN-RECITAL'2012) (Vol. 1, pp. 73-80).

[C1] **Z. Ming**, Beautemps, D., Feng, G., & Schmerber, S. (2010, September). Estimation of Speech Lip Features from Discrete Cosinus Transform. In 11th Annual Conference of the International Speech Communication Association 2010 (Interspeech 2010) (pp. 1612-1615). (***Core rank A***)

[International workshops]:

[W5] Souhail Bakkali, **Zuheng Ming**, Mickaël Coustaty, Marçal Rusiñol "Visual and Textual Deep Feature Fusion for Document Image Classification", IEEE International Conference and Pattern Recognition workshop (CVPRw) 2020, Seattle

[W4] **Zuheng Ming**, Junshi Xia, Muhammad Muzzamil Luqman, Jean-Christophe Burie, Kaixing Zhao, "Dynamic Multi-Task Learning for Face Recognition with Facial Expression," in International Conference on Computer Vision Workshops (ICCVW), 2019, Seoul

[W3] **Zuheng Ming**, Muhammad Muzzamil Luqman, Jean-Christophe Burie "Dynamic Deep Multi-task Learning for Caricature-Visual Face Recognition," in the 13th International Workshop on Graphics Recognition, GREC2019@ICDAR 2019, Sydney

[W2] Souhail Bakkali**, Zuheng Ming**, Muhammad Muzzamil Luqman, Jean-Christophe Burie "Face Detection in Camera Captured Images of Identity Documents under Challenging Conditions," in the 15th International Conference on Document Analysis and Recognition Workshop, CBDAR2019 @ ICDAR 2019, Sydney

[W1] **Z. Ming**, J. Chazalon, M. M. Luqman,, M. Visani and J. C. Burie, "Simple triplet loss based on intra/interclass metric learning for face verification," in International Conference on Computer Vision Workshops (ICCVW), 2017, pp. 1656–1664

[Technical report]

[T1] Zuheng Ming, Aurélie Bugeau, Jean-Luc Rouas, Takaaki Shochi. Analysis of Facial Expression. LaBRI of Bordeaux University Technical Report RR2015-12.

[Thesis]

Z.Ming. Spectral Parameters to Cued Speech Parameters Mapping: Multi-linear and GMM approaches (applied to French vowels). Gipsa-lab of university of Grenoble, Thèse, 2013.