Dr. Baiqiang XIA - Curriculum Vitae

Contact	Fredrikinkatu 57, 00100	**Mobile Phone**	+358 (0)46 5726998
Location	Helsinki, Finland	**Email**	baiqiang.mobile@gmail.com
Nationality	Chinese	**Birth Year**	1987

Highlights Face Recognition, Large Scale (Un-)supervised Visual Recognition
Search Engine, Visual Search, Multi-Modal Search, Content Generation
Riemannian Geometry, Computer Vision, Human-Machine Interaction, Deep Learning

Industrial Work Experiences

10/2019 - Now From 10/2021 Lead AI Scientist **(3 Months, Ongoing)**
From 02/2021 Senior AI Scientist **(8 Months, Promoted ↑)**
From 10/2019 AI Scientist @ Silo AI, Helsinki, Finland **(16 Months, Promoted ↑)**
Role (Now): AI R&D Team Lead (Tech Planning, Projects Mgmt, Patents&Publications, Recruitment)
Highlights: **Case1:** Leading Industrial AI R&D team composed of Phds and Engineers, covering face recognition/generation, large scale (un-)supervised visual recognition and visual search, video understanding, multi-modal learning, cloud/edge AI deployment, AR/VR usecases, for a world-leading ICT company. With 15+ products released online serving millions of users, billions of requests & multiple international patents filed *(From Mid-2020, Ongoing)*.
Case2: Devised a state-of-the-art deep learning based medical image analysis solution for a world-leading healthcare company located in Helsinki *(Early-2020)*.
Case3: Developed a comprehensive Deep Face Analysis solution for a Major Broadcasting Company in Finland for media content and user experience understanding, covering face detection/tracking/recognition, facial gender/age/expression/pose recognition, and gaze estimation *(Late-2019)*.

03/2019-09/2019 Senior Data Scientist @ Top Data Science Oy, Helsinki, Finland **(7 Months, Left)**
Role: Leading Deep Learning Based Visual Recognition Projects and Competitions
Highlights: **Won** an Industrial Computer Vision Competition with 20k Euros Award (1st Place)
Delivered 3 Computer Vision PoC Solutions (YOLO-based Object Recognition in Retail, Visual Crowd Counting - In Press of Finnish National Broadcasting Company (click2view), Human Pose Estimation in Paper Making Industry).
Gained 3 compensation promotions within 7 months employment, plus 1 special bonus
Worked on 2 other AI projects, concerning Time Series Prediction/Literature Survey.

Academic Work Experiences

09/2018-02/2019 Oulu University, Finland
Postdoc Researcher, Faculty of Information Technology and Electrical Engineering (ITEE)
Topic: Deep Learning Powered Face Analysis for Healthcare

08/2016-08/2018 Lancaster University, United Kingdom
Research Associate, School of Computing and Communications (25 Months)
Project: Monitoring Of Dementia using Eye Movements (MODEM) [Link]
Topic: Statistics and Machine Learning for Neuro-Degenerative Diseases
(Dementia, Autism, Epilepsy, ADHD, Dyslexia)
Collaborators: Prof. Hans Gellersen (Supervisor), and Dr. Trevor Crawford, and Dr. Thomas Wilcockson, and Dr. Diako Mardanbegi

11/2014-07/2016 Trinity College Dublin, the University of Dublin, Ireland
Research Fellow, School of Computer Science and Statistics (21 Months)
Project: Embedded Vision Exemplar Systems (EVES) [Link]
Topic: RGB-D hand hygiene gestures recognition
Supervisors: A. Prof. Rozenn Dahyot, and A. Prof. Gerard Lacey

Education

12/2011-11/2014 University Lille 1 - Sciences et Technologies, Lille, France
Ph.D., Computer Science (3 Years)
Project: 3D Face Analyzer[Link]
Topic: 3D face-based recognition of facial attributes(age, gender)
Supervisors: Prof. Mohamed Daoudi (IAPR Fellow), and Prof. Boulbaba Ben Amor

12/2012-01/2013 Beihang University, Beijing, China
Visiting researcher (1.5 Months)
Project: 3D Face Analyzer[Link]
Topic: Combining 2D and 3D modalities for face gender recognition
Collaborators: A. Prof. Di HUANG, and Prof. Yunhong Wang

09/2005-07/2011 Beihang University, Beijing, China
BS and MS, Control Science and Engineering
2nd highest score in 'Gaokao', among 15,000+ students in Chengde city (2005)

Honors & Awards

05/2019 - ***Winner*** of an intensive AI competition with 20k euros monetary award, organized by an international company (anonymous for confidentiality) with billions dollars revenue.

01/2014 - **Best** Paper Award in the 9th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications (VISAPP)

10/2007 - **Awarded** National Encouragement Scholarship (NES) by Beijing University of Aeronautics and Astronautics (aka BUAA or Beihang University)

07/2005 - **2nd Highest** score in the National College Entrance Examination (NCEE, aka 'Gaokao'), among 15,000+ students in the City of Chengde, Hebei Province, China (2005)

Internships

10/2011-11/2011 Beijing Rainfe Technology Co.,Ltd
Role: Software engineer for browser based information system (2 Months)

08/2010-11/2010 Spirent Communications Ltd
Role: Automated software test intern on linux and solaris systems (tcl, perl based) (4 Months)

08/2009-09/2009 Digital China Holdings Ltd
Role: Functional software test intern (1 Month)

Fundamental Skills

- **Programming:**
  – *Python (main focus), Matlab, C/C++*
- **Working Languages:**
  – *Chinese (Native), English (IELTS-7.0, 2016), French (TEF-426, 2011)*

Academic Services

- **Academic Reviewer:**
  – *Elsevier Journal of Computer Vision and Image Understanding (CVIU) 2021*
  – *IEEE Transactions on Circuits and Systems for Video Technology (TCSVT) 2019,2020*
  – *IEEE Transactions on Multimedia (ToM) 2018*
  – *Elsevier Journal of Image and Vision Computing (IVC) 2018*
  – *ACM Transactions on Multimedia Computing, Communications, Applications (TOMM) 2017*
  – *ACM Symposium on eye tracking research & applications (ETRA) 2018*
  – *Representation, analysis and recognition of shape and motion FroM Image data, 2015,2016*
  – *Irish Machine Vision and Image Processing Conference (IMVIP) 2015*
  – *International Joint Conference on Biometrics (IJCB) 2014*

- **Invited Talks**

  –BUPT information technology international forum for young scholars, 12/2017
  –NPU 3rd Aoxiang Forum for Distinguished Young Scholars, 11/2017
  –Xidian University International Forum for HUASHAN Scholars, 11/2017

- **University Teaching**

  –Introduction to Computing, 2015-2016, Trinity College Dublin, Ireland (Assembly, 1 Term)
  –Algorithms and Data Structure, 2015-2016, Trinity College Dublin, Ireland (Java, 1 Term)
  –Data structure, 2013-2014, Institut Mines-Telecom, France (C, 1 Term)
  –Software quality management, 2012&2013, Beihang University, China (C, 2 Terms)

Publications

1. Liao X., Shi J., Li Z., Zhang L., XIA, B.. A Model-driven Deep Reinforcement Learning Heuristic Algorithm for Resource Allocation in Ultra-dense Cellular Networks [J]. IEEE Transactions on Vehicular Technology, 2020.
2. Mardanbegi D., Wilcockson T., Killick R., XIA, B., Wilcockson T.,Gellersen H., Sawyer P., Crawford T.J. A comparison of post-saccadic oscillation between Caucasians and Chinese [J]. PloS one, 2020.
3. Wilcockson, T., Mardanbegi, D., XIA, B., Taylor, S., Sawyer, P., Gellersen, H. W., Crawford, T. J. Abnormalities of saccadic eye movements in dementia due to Alzheimer's disease and mild cognitive impairment [J]. Aging, 2019
4. *Baiqiang XIA. Which Facial Expressions Can Reveal Your Gender ? A Study on 3D Faces, Arxiv, 2018. [Link]*
5. *Wilcockson T., Mardanbegi D., Sawyer P. , Gellersen H., XIA, B., Crawford T.J. Oculomotor and inhibitory control in dyslexia [J]. Frontiers in Systems Neuroscience, 2018. (Accepted)*
6. *Mardanbegi D., Killick R., XIA, B., Wilcockson T.,Gellersen H., Sawyer P., Crawford T.J. Effect of Aging on Post-Saccadic Oscillations[J]. Journal of Vision Research, 2018. [Link]*
7. *XIA, B., Amor B.B., Mohamed D. Joint Gender, Ethnicity and Age Estimation from 3D Faces-An Experimental Illustration of their Mutual Correlations[J]. Journal of Image and Vision Computing, 2017, 64: 90-102, ISSN 0262-8856.[Link]*
8. *Mardanbegi D., Wilcockson T., XIA, B., Gellersen H., Sawyer P., Crawford T.J. PSOVIS: An interactive tool for extracting post-saccadic oscillations from eye movement data [C]. COGAIN 2017. [Link]*
9. *XIA, B. 3D Nasal Shape: A New Basis for Soft-Biometrics Recognition [C]. Representations, Analysis and Recognition of Shape and Motion from Imaging Data: 6th International Workshop, RFMI 2016. [Link]*
10. *XIA, B., Dahyot, R., Ruttle, J. et al. Hand Hygiene Poses Recognition with RGB-D Videos [C]. Irish Machine Vision and Image Processing conference (IMVIP), ISBN 978-0-9934207-0-2, August 2015. [Link]*
11. *XIA, B., Amor B.B., Mohamed D., et al. Combining Face Averageness and Symmetry for 3D-based Gender Classification[J]. Pattern Recognition, 2015, 48(3): 746-758. [Link]*
12. *XIA, B. Learning 3D geometric features for soft-biometrics recognition. PHD Thesis, 2014. [Link]*
13. *XIA, B., Amor B.B., Mohamed D.. Exploring the magnitude of sexual dimorphism in 3D face based gender classification[C]. Computer Vision-ECCV 2014 Workshops. 2014. [Link]*
14. *XIA, B., Amor B B, Daoudi M. Age Estimation Using 3D Shape of the Face [C]. International Joint Conference on Computer Vision, Imaging and Computer Graphics. Springer, Cham, 2014: 175-190. [Link]*
15. *XIA, B., Amor B.B., Mohamed D., et al. Can 3D Shape of the Face Reveal your Age ?[C]. The 9th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications (VISAPP) 2014. ***Best Paper Award in VISAPP 2014*** in the Area of Image and Video Understanding.[Link]*
16. *XIA, B., Amor B. B., Di H., et al. Enhancing Gender Classification by Combining 3D and 2D Face Modalities[C]. Proceeding of European Signal Processing Conference (EUSIPCO). 2013: 1-6. [Link]*
17. *XIA, B., Amor B. B., Hassen D., et al. Gender and 3D Facial Symmetry: What's the Relationship?[C]. Proceeding of the IEEE Conference on Automatic Face and Gesture Recognition (FG) 2013. 2013: 1-8.[Link]*
18. *XIA, B., and Zhong D.. Engineering safety information in software intensive systems[C]. Reliability, Maintainability and Safety (ICRMS), 2011 9th International Conference on. IEEE, 2011. [Link]*