# **Haiping Lu**

PRESENT APPOINTMENT	Senior Lecturer in Machine Learning AI Strategy Lead Department of Computer Science Insigneo Healthcare Data/AI Research Director The University of Sheffield  C) Office: +44 (0) 114 222 1853 Email: h.lu@sheffield.ac.uk C) GitHub: github.com/haipinglu Wob: staffwww.dcs.shef.ac.uk/people/H.Lu/
RESEARCH INTERESTS	<ul> <li>Deep learning, machine learning, interpretability, tensor-based modelling</li> <li>Medical imaging, graph analysis, computer vision, drug discovery</li> </ul>
EDUCATION & PROFESSIONAL QUALIFICATION	<ul> <li>♦ Fellow of the Higher Education Academy (FHEA), UK, 2018</li> <li>♦ PhD in Electrical &amp; Computer Engineering, University of Toronto, Canada, 2008</li> <li>♦ MEng in Electrical &amp; Electronic Engineering, Nanyang Technological University, Singapore, 2004</li> <li>♦ BEng in Electrical &amp; Electronic Engineering, Nanyang Technological University, Singapore, 2001</li> </ul>
SELECTED AWARDS	<ul> <li>♦ Turing Network Development Award 2021, Alan Turing Institute, UK (as PI).</li> <li>♦ NIHR AI in Health and Care Award 2020, National Institute for Health Research, UK (as Co-I).</li> <li>♦ Wellcome Trust Innovator Awards: Digital Technologies 2019, UK (jointly with Swift).</li> <li>♦ Amazon Research Award 2018: among 83 international awardees.</li> <li>♦ AAAI-18 Outstanding Program Committee Member Award, Association for the Advancement of Artificial Intelligence, US (20 awardees from 2,415 PC members of AAAI-18).</li> <li>♦ 2014/15 Early Career Award, Research Grant Council (RGC), Hong Kong (22 out of 359).</li> <li>♦ 2013 IEEE Computational Intelligence Society Outstanding PhD Dissertation Award.</li> </ul>
STUDENT ACHIEVEMENTS	♦ The Fretwell-Downing Prize, for the best MSc dissertation in the Department of Computer Science, University of Sheffield: > 1) Peizhen Bai, 2017; 2) Hao Xu, 2019.
PROFESSIONAL EXPERIENCE	<ul> <li>♦ Senior Lecturer in Machine Learning, University of Sheffield. (Jan 2020 – present)</li> <li>♦ Lecturer in Machine Learning, University of Sheffield. (Nov 2016 – Dec 2019)</li> <li>♦ Assistant Professor in Computer Science, Hong Kong Baptist University. (Aug 2013 – Jul 2016)</li> <li>♦ Scientist, Institute for Infocomm Research, A*STAR, Singapore. (Oct 2009 – Jul 2013)</li> <li>♦ Post-doctoral fellow, Department of ECE, University of Toronto, Canada. (Sep 2008 – Aug 2009)</li> </ul>
Research Grants	<ul> <li>♦ Externally-funded research grants in the UK (Total: GBP 1,627,374)</li> <li>▶ PI, Turing Network Development Award, GBP24,964, Alan Turing Institute, UK, Feb 2022 - Sep 2022.</li> <li>▶ Co-PI, "Interactively trained 'human-in-the-loop' deep learning approach to improve car-</li> </ul>

- ⊳ Co-PI, "Interactively trained 'human-in-the-loop' deep learning approach to improve cardiac CT and MRI assessment for accurate therapy response and mortality prediction", GBP 836,551, Artificial Intelligence in Health and Care Award, NIHR, UK, Mar 2021 - Feb 2023.
- ⊳ Co-PI, "Developing a Machine Learning Tool to Improve Prognostic and Treatment Response Assessment on Cardiac MRI Data", GBP 639,873, Innovator Awards: Digital Technologies, Wellcome Trust, UK, Oct 2019 - Mar 2022.
- ▷ PI, "Learning Representations of Higher-Order Structures for Networks via Tensor Embedding", USD 71,000, Amazon Research Awards, Amazon, US, Apr 2019 - Mar 2020.
- PI, "Learning Sparse Features from 4D fMRI Data for Brain Disease Diagnosis", GBP 100,730, First Grant, EPSRC, UK, Jan 2018 - Jun 2019.
- ♦ Externally-funded research grants in Hong Kong (Total: HKD 2,010,203)
  - PI, "Relaxation Methods in Principal and Discriminative Component Analysis for Tensor Data", HKD 482,605, 2016/17 General Research Fund (GRF), RGC (Ref: HKBU12248616).

- ▷ PI, "Learning Independent Components with Tensor-based Modelling for Big fMRI Data", HKD 695,861, 2015/16 General Research Fund (GRF), RGC (Ref: HKBU12200915).
- ▶ PI, "Dimensionality Reduction for Learning Correlations between Big Multidimensional Data", HKD 831,737, 2014/15 Early Career Scheme (ECS), RGC (Ref: HKBU22200014).

# CITATION STATISTICS

- ♦ Citation profile: http://scholar.google.com/citations?user=CArrsDMAAAAJ.
- ♦ h-index: 25; total citations: 3,548; average citations per paper: 46.0; as of December 27, 2021.

#### **PUBLICATIONS**

#### ♦ Book

- [B1] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "Multilinear Subspace Learning: Dimensionality Reduction of Multidimensional Data", Chapman & Hall/CRC Press Machine Learning and Pattern Recognition Series, Taylor and Francis, ISBN: 978-1-4398572-4-3, 2013.
- ♦ Refereed Journal Papers [# indicates a supervised student]
  - [J22] Y. Ge#, P. Peng, and H. Lu, "Mixed-Order Spectral Clustering for Networks", Pattern Recognition, 117, 107964, 2021.
  - [J21] K. Dwivedii#, M. Sharkey, J. Uthoff#, S. Alabed#, P. Metherall, H. Lu, R. Condliffe, J. Wild, E. Hoffman, A. J. Swift, D. Kiely, "Pulmonary Hypertension in Association with Lung Disease: Quantitative CT and Artificial Intelligence to the Rescue? State-of-the-Art Review", *Diagnostics*, 11(4), 679, 2021.
  - [J20] M. Schirmer, A. Venkataraman, I. Rekik, M. Kim, S. Mostofsky, M. Nebel, K. Rosch, K. Seymour, D. Crocetti, H. Irzan, M. Hütel, S. Ourselin, N. Marlow, A. Melbourne, E. Levchenko, S. Zhou#, M. Kunda#, H. Lu, N. C Dvornek, J. Zhuang, G. Pinto, S. Samal, J. Bernal-Rusiel, R. Pienaar, A. W. Chung, "Neuropsychiatric Disease Classification Using Functional Connectomics—Results of the Connectomics in NeuroImaging Transfer Learning Challenge", Medical Image Analysis, 70, 101972, 2021.
  - [J19] A. J Swift\*, H. Lu\*, J. Uthoff#, P. Garg, M. Cogliano, J. Taylor, P. Metherall, S. Zhou#, C. S Johns, S. Alabed#, R. Condliffe, A. Lawrie, J. Wild and D. Kiely, "A Machine-Learning CMR Approach to Extract Disease Features and Automate Pulmonary Arterial Hypertension Diagnosis", European Heart Journal Cardiovascular Imaging, 22(2), 236–245, 2021. \*joint first author
  - [J18] Y. Zhou#, H. Lu, and Y.-M. Cheung, "Probabilistic Rank-One Tensor Analysis with Concurrent Regularizations", IEEE Trans. on Cybernetics, 51(7), 3496-3509, 2021.
  - [J17] P. Bai#, Y. Ge#, F. Liu#, and H. Lu, "Joint Interaction with Context Operation for Collaborative Filtering", Pattern Recognition, 88, 729-738, 2019.
  - [J16] Q. Shi#, Y. M. Cheung, Q. Zhao, and H. Lu "Feature Extraction for Incomplete Data via Low-rank Tensor Decomposition with Feature Regularization", *IEEE Trans. on Neural Networks and Learning Systems*, 30(6), 1803-1817, 2019.
  - [J15] Q. Shi#, H. Lu and Y. M. Cheung, "Rank-One Matrix Completion with Automatic Rank Estimation via L1-Norm Regularization", *IEEE Trans. on Neural Networks and Learning Systems*, 29(10), 4744-4757, 2018.
  - [J14] X. Xie, Z.-L. Yu, H. Lu, Z. Gu and Y. Li, "Motor Imagery Classification based on Bilinear Sub-Manifold Learning of Symmetric Positive-Definite Matrices", IEEE Trans. on Neural Systems & Rehabilitation Engineering, 25(6), 504-516, 2017.
  - [J13] H. Lu, Y. Pan, B. Mandal, H.-L. Eng, C. Guan and D. W. S. Chan, "Quantifying Limb Movements in Epileptic Seizures through Color-based Video Analysis", *IEEE Trans. on Biomedical Engineering*, 60(2), 461-469, 2013.
  - [J12] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "A Survey of Multilinear Subspace Learning for Tensor Data", Pattern Recognition, 44(7), 1540-1551, 2011.
  - [J11] H. Lu, H.-L. Eng, C. Guan, K. N. Plataniotis and A. N. Venetsanopoulos, "Regularized Common Spatial Pattern With Aggregation for EEG Classification in Small-Sample Setting", *IEEE Trans. on Biomedical Engineering*, 57(12), 2936-2946, 2010.
  - [J10] F. Bui, K. Martin, H. Lu, K. N. Plataniotis and D. Hatzinakos, "Fuzzy Key Binding Strategies Based on Quantization Index Modulation (QIM) for Biometric Encryption (BE) Applications", *IEEE Trans. on Information Forensics and Security*, 5(1), 118-132, 2010.
  - [J9] K. Martin, H. Lu, F. Bui, K. N. Plataniotis and D. Hatzinakos, "A Biometric Encryption System for the Self-Exclusion Scenario of Face Recognition", *IEEE Systems Journal*, 3(4), 440-450, 2009.
  - [J8] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "Uncorrelated Multilinear Principal Component Analysis for Unsupervised Multilinear Subspace Learning", *IEEE Trans. on Neural Networks*, 20(11), 1820-1836, 2009.

- [J7] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "Boosting Discriminant Learners for Gait Recognition using MPCA Features", EURASIP Journal on Image and Video Processing, 2009, 713183, 2009.
- [J6] J. Wang, H. Lu, K. N. Plataniotis and J. Lu, "Gaussian Kernel Optimization for Pattern Classification", Pattern Recognition, 42(7), 1237-1247, 2009.
- [J5] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "Uncorrelated Multilinear Discriminant Analysis with Regularization and Aggregation for Tensor Object Recognition", *IEEE Trans. on Neural Networks*, 20(1), 103-123, 2009.
- [J4] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "MPCA: Multilinear Principal Component Analysis of Tensor Objects", *IEEE Trans. on Neural Networks*, (19), (1), 18-39, Jan. 2008.
- [J3] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "A Full-Body Layered Deformable Model for Automatic Model-Based Gait Recognition", EURASIP Journal on Advances in Signal Processing, 2008, 261317, 2008.
- [J2] **H. Lu**, Y. Q. Shi, A. C. Kot and L. Chen, "Binary Image Watermarking through Blurring and Biased Binarization", *International Journal of Image and Graphics*, 5(1), 67-87, 2005.
- [J1] H. Lu, A. C. Kot and Y. Q. Shi, "Distance-Reciprocal Distortion Measure for Binary Document Images", IEEE Signal Processing Letters, 11(2), 228-231, 2004.
- ♦ Refereed Conference Papers [# indicates a supervised student/staff]
  - [C34] L. Zhang#, L. Shi, J. Zhao, J. Yang, T. Lyu, D. Yin, and H. Lu, "A GNN-based Multi-task Learning Framework for Personalized Video Search", in Proceedings of the Fifteenth International Conference on Web Search and Data Mining (WSDM 2022), February 21-25, 2022.
  - [C33] P. Bai#, F. Miljkovi, Y. Ge#, N. Greene, B. John, and H. Lu, "Hierarchical Clustering Split for Low-Bias Evaluation of Drug-Target Interaction Prediction", in *Proceedings of the IEEE International Conference* on Bioinformatics and Biomedicine (BIBM 2021), December 9-12, 2021.
  - [C32] L. Schobs#, S. Zhou#, M. Cogliano, A. Swift, and H. Lu, "Confidence-quantifying landmark localisation for cardiac MRI", in *Proceedings of the IEEE International Symposium on Biomedical Imaging (ISBI 2021)*, April 13-16, 2021.
  - [C31] L. Zhang#, and H. Lu, "A Feature-Importance-Aware and Robust Aggregator for GCN", in Proceedings of the 29th ACM Conference on Information and Knowledge Management (CIKM 2020), Galway, Ireland, Pages. 1813-1822, October 19-23, 2020.
  - [C30] J. Uthoff#, S. Alabed#, A. Swift, and H. Lu, "Geodesically Smoothed Tensor Features for Pulmonary Hypertension Prognosis using the Heart and Surrounding Tissues", in *Proceedings of the 23rd International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2020)*, Lima, Peru, pages. 253-262, October 04-08, 2020.
  - [C29] S. Zhou#, W. Li#, C. Cox, and H. Lu, "Side Information Dependence as a Regularizer for Analyzing Human Brain Conditions across Cognitive Experiments", in *Proceedings of the 34th AAAI Conference* on Artificial Intelligence (AAAI 2020), New York, New York, USA. Pages. 6957-6964, February 07-12, 2020.
  - [C28] Q. Shi#, H. Lu and Y. M. Cheung, "Tensor Rank Estimation and Completion via CP-based Nuclear Norm", in *Proceedings of the 26th ACM Conf. on Information and Knowledge Management (CIKM 2017)*, Singapore, Pages 949-958, November 06-10, 2017.
  - [C27] Y. Zhou#, H. Lu and Y. M. Cheung, "Bilinear Probabilistic Canonical Correlation Analysis via Hybrid Concatenations", in *Proceedings of the 31st AAAI Conf. on Artificial Intelligence (AAAI 2017)*, San Francisco, U.S., Pages 2949-2955, February 04-09, 2017.
  - [C26] X. Song# and H. Lu, "Multilinear Regression for Embedded Feature Selection with Application to fMRI Analysis", in *Proceedings of the 31st AAAI Conf. on Artificial Intelligence (AAAI 2017)*, San Francisco, U.S., Pages 2562-2568, February 04-09, 2017.
  - [C25] L. Song# and H. Lu, "Proper Inner Product with Mean Displacement for Gaussian Noise Invariant ICA", in *Proceedings of the 8th Asian Conf. on Machine Learning, Hamilton (ACML 2016)*, Hamilton, New Zealand, Pages 398-413, November 16-18, 2016.
  - [C24] L. Song# and H. Lu, "EcolCA: Skewness-based ICA via Eigenvectors of Cumulant Operator", in Proceedings of the 8th Asian Conf. on Machine Learning, Hamilton (ACML 2016), Hamilton, New Zealand, Pages 445-460, November 16-18, 2016.
  - [C23] Y. Zhou# and H. Lu, "Probabilistic Rank-One Matrix Analysis with Concurrent Regularization", in Proceedings of the 25th International Joint Conf. on Artificial Intelligence (IJCAI 2016), New York City, U.S., Pages 2428-2434, July 09-15, 2016.

- [C22] H. Lu, J. Wu, and Y. Zhang "Learning Compact Binary Codes from Higher-Order Tensors via Free-Form Reshaping and Binarized Multilinear PCA", in *Proceedings of the 2016 International Joint Conf. on Neural Networks (IJCNN 2016)*, Vancouver, Canada, Pages 3008-3015, July 24-29, 2016.
- [C21] X. Song#, L. Meng#, Q. Shi# and H. Lu, "Learning Tensor-Based Features for Whole-Brain fMRI Classification", in Proceedings of the 18th Int. Conf. on Medical Image Computing and Computer Assisted Intervention (MICCAI 2015), Munich, Germany, Pages 613-620, October 05-09, 2015.
- [C20] Q. Shi# and H. Lu, "Semi-Orthogonal Multilinear PCA with Relaxed Start", in *Proceedings of the 24th International Joint Conf. on Artificial Intelligence (IJCAI 2015)*, Buenos Aires, Argentina, Pages 3805-3811, July 25-31, 2015.
- [C19] H. Lu, "Learning Modewise Independent Components from Tensor Data Using Multilinear Mixing Model", in Proceedings of the European Conf. on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD2013), Prague, Czech Republic, Pages 288-303, September 23-27, 2013.
- [C18] H. Lu, "Learning Canonical Correlations of Paired Tensor Sets via Tensor-to-Vector Projection", in Proceedings of the 23rd International Joint Conf. on Artificial Intelligence (IJCAI 2013), Beijing, China, Pages 1516-1522, August 3-9, 2013.
- [C17] B. Mandal, H.-L. Eng, H. Lu, D. W. S. Chan and Y.-L. Ng, "Non-intrusive Head Movement Analysis of Videotaped Seizures of Epileptic Origin", in *Proceedings of the 34th Annual Int. Conf. of the IEEE Engineering in Medicine and Biology Society (EMBC'12)*, San Diego, California, Pages 6060-6063, 28th Aug.-1st Sep., 2012.
- [C16] H. Lu, H.-L. Eng, B. Mandal, D. W. S. Chan and Y.-L. Ng, "Markerless Video Analysis for Movement Quantification in Pediatric Epilepsy Monitoring", in *Proceedings of the 33rst Annual Int. Conf. of the IEEE Engineering in Medicine and Biology Society (EMBC'11)*, Boston, Massachusetts, USA, Pages 8275-8278, 30th Aug.-3rd Sep., 2011.
- [C15] H. Lu, H.-L. Eng, M. Thida, and K.N. Plataniotis, "Visualization and Clustering of Crowd Video Content in MPCA Subspace", in *Proceedings of the 19st ACM Conf. on Information and Knowledge Management (CIKM 2010)*, Toronto, ON, Canada, Pages 1777-1780, Oct., 2010.
- [C14] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "Regularized Common Spatial Patterns with Generic Learning for EEG Signal Classification", in *Proceedings of the 31st Annual Int. Conf. of the* IEEE Engineering in Medicine and Biology Society (EMBC'09), Minneapolis, Minnesota, USA, Pages 6599-6602, Sep. 2009.
- [C13] H. Lu, K. Martin, F. Bui, K. N. Plataniotis and D. Hatzinakos, "Face recognition with biometric encryption for privacy-enhancing self-exclusion", in *Proceedings of the 16th Int. Conf. on Digital Signal Processing (DSP 2009)*, Santorini, Greece, Jul. 2009.
- [C12] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "Uncorrelated Multilinear Principal Component Analysis through Successive Variance Maximization", in *Proceedings of the 25th Int. Conf. on Ma*chine Learning (ICML 2008), Helsinki, Finland, Pages 616-623, Jul. 2008.
- [C11] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "Boosting LDA with Regularization on MPCA Features for Gait Recognition", in *Proceedings of the Biometrics Symposium 2007 (BSYM 2007)*, Baltimore, USA, Sep. 2007. doi:10.1109/BCC.2007.4430542.
- [C10] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "Uncorrelated Multilinear Discriminant Analysis with Regularization for Gait Recognition", in *Proceedings of the Biometrics Symposium 2007 (BSYM 2007)*, Baltimore, USA, Sep. 2007.
- [C9] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "Gait Recognition through MPCA plus LDA", in Proceedings of the Biometrics Symposium 2006 (BSYM 2006), Baltimore, USA, Sep. 2006.
- [C8] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "Multilinear Principal Component Analysis of Tensor Objects for Recognition", in *Proceedings of the Int. Conf. on Pattern Recognition (ICPR 2006)*, Hong Kong, China, Vol. 2, Pages 776-779, Aug. 2006.
- [C7] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "Coarse-to-Fine Pedestrian Localization and Silhouette Extraction for the Gait Challenge Data Sets", in *Proceedings of the IEEE Int. Conf. on Multimedia & Expo (ICME 2006)*, Toronto, Canada, Pages 1009-1012, Jul. 2006.
- [C6] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "A Layered Deformable Model for Gait Analysis", in *Proceedings of the IEEE Int. Conf. on Automatic Face and Gesture Recognition (FG 2006)*, Southampton, UK, Pages 249-254, Apr. 2006.
- [C5] H. Lu, A. C. Kot and R. Susanto, "Binary Image Watermarking through Biased Binarization", in Proceedings of the 2003 IEEE Int. Conf. on Multimedia & Expo (ICME 2003), Baltimore, Maryland, USA, Vol. 3, Pages 101-104, Jul. 2003.

- [C4] H. Lu, A. C. Kot and J. Cheng, "Secure Data Hiding in Binary Document Images for Authentication", in *Proceedings of the 2003 IEEE International Symposium on Circuits and Systems (ISCAS 2003)*, Bangkok, Thailand, Vol. 3, Pages 806-809, May 2003.
- [C3] H. Lu, X. Shi, Y. Q. Shi, A. C. Kot and L. Chen, "Watermark Embedding in DC Components of DCT for Binary Images", in *Proceedings of the IEEE International Workshop on Multimedia Signal Processing* (MMSP 2002), US Virgin Islands, Pages 300-303, Dec. 2002.
- [C2] H. Lu, X. Jiang and W. Y. Yau, "Effective and Efficient Fingerprint Image Postprocessing", in Proceedings of the Seventh Int. Conf. on Control, Automation, Robotics and Vision (ICARCV 2002), Singapore, Pages 985-989, Dec. 2002.
- [C1] **H. Lu**, J. Wang, A. C. Kot and Y. Q. Shi, "An Objective Distortion Measure for Binary Document Images Based on Human Visual Perception", in *Proceedings of the 16th Int. Conf. on Pattern Recognition (ICPR 2002)*, Quebec City, Canada, Vol. 4, Pages 239-242, Aug. 2002.

### ♦ Book Chapters

- [BC2] H. Lu, K. N. Plataniotis and A. N. Venetsanopoulos, "A Taxonomy of Emerging Multilinear Discriminant Analysis Solutions for Biometric Signal Recognition", in *Biometrics: Theory, Methods, and Applications*, N. Boulgouris, K. N. Plataniotis, and E. Micheli-Tzanakou, Eds., Pages 21-45, Wiley-IEEE Press, ISBN: 978-0-470-24782-2, 2009.
- [BC1] H. Lu, J. Wang and K. N. Plataniotis, "A Review on Face and Gait Recognition: System, Data and Algorithms", in Advanced Signal Processing: Theory and Implementation for Sonar, Radar, and Non-Invasive Medical Diagnostic Systems, Second Edition, S. Stergiopoulos, Editor, Pages 303-330, CRC Press, Boca Raton, Florida, ISBN: 978-1-4200-6238-0, 2009.

#### ♦ Patent

- [P2] H. Lu and A. Swift, "Tensor based feature learning analysis approach to interrogate medical images", International (PCT) Patent Application No PCT/GB2019/053014, filed, Oct. 2019.
- [P1] A. C. Kot, H. Yang and **H. Lu**, "Method, Software and Device for Hiding Data in Binary Images While Preserving Image Quality", United States Patent 7,324,662, January 29, 2008.

# STUDENT AND STAFF SUPERVISION

- ♦ Principal supervisor of post-doctoral researchers, the University of Sheffield.
  - ⊳ Johanna Uthoff, October 2019 September 2021.
  - ▶ Wenwen Li, June 2018 August 2019.
- Principal supervisor of visiting researchers, the University of Sheffield.
  - ⊳ Xianyuan Liu, September 2019 September 2021.
- ♦ Principal supervisor of PhD students, the University of Sheffield.

  - ▶ Pawel Pukowski, from November 2021
  - ⊳ Peizhen Bai, from January 2021

  - ⊳ Shuo Zhou, from February 2018

  - Yan Ge, ""Representation Learning with Motif Structures", completed in August 2021, now a Lecturer at University of Bristol
- ♦ Co-supervisor of PhD students, the University of Sheffield.

  - ▶ Ludmila Kucikova, from October 2021
  - ⊳ Krit Dwivedi , from October 2020.
  - ⊳ Samer Al-Abed , from October 2019.
- ♦ Principal supervisor of two PhD students, Hong Kong Baptist University (HKBU).
  - ▶ Yang Zhou, completed in 2019.
- ♦ Supervisor of two research assistants, HKBU.
  - ▶ Liyan Song, from November 2015 to July 2016.

⊳ Xiaonan Song, from January 2015 to August 2015.

## RELEASED SOFTWARE

### 50,000+ downloads in total:

- [S4] Machine learning library: https://github.com/pykale/pykale, part of the PyTorch ecosystem
- [S3] GitHub: https://github.com/haipinglu
- [S2] MATLAB Central: http://www.mathworks.com/matlabcentral/fileexchange/authors/ 80417
- [S1] Machine Learning Open Source Software: http://mloss.org/software/author/haiping-lu/

#### SELECTED TALKS

- [T5] Insigneo Showcase (>200 delegates), "Interpretable Machine Learning", Sheffield, May 2019.
- [T4] Oxford BDI Seminar, "Interpretable Machine Learning with Tensor Models for Healthcare", the Big Data Institute (BDI), University of Oxford, April 2019.
- [T3] "Tensor Analysis and Learning for Medical Data", ECE Seminar, Brunel University, UK, May 2018.
- [T2] "Tensor Analysis and Learning", Artificial Intelligence and Natural Computation Seminars, University of Birmingham, UK, December 2017.
- [T1] "The Birth of My First Proposal", experience sharing on proposal preparation, one of the two speakers nominated by the RGC Engineering Panel Chair, RGC Town Hall Meeting on Submission of Individual Research Proposals, December 10, 2015.

# PROFESSIONAL SERVICES

- ♦ Insigneo Research Director for Healthcare Data / AI, University of Sheffield, since 2021
- Machine Learning Theme Lead for Sheffield in the N8 Centre of Excellence in Computationally Intensive Research, University of Sheffield, since 2021
- AI Strategy Lead, Department of Computer Science, University of Sheffield, since 2021
- ♦ Associate Editor:
  - ▶ World Scientific Annual Review of Artificial Intelligence
- ♦ Area Chair:
  - ▷ International Joint Conf. on Artificial Intelligence (IJCAI): 2021
- ♦ Senior Program Committee Member:
  - ▶ AAAI Conf. on Artificial Intelligence (AAAI): 2019, 2020, 2022
  - ▶ International Joint Conf. on Artificial Intelligence (IJCAI): 2018, 2019, 2022
- ♦ Session Chair:
  - ▷ AAAI Conf. on Artificial Intelligence (AAAI): 2017
- ♦ Program Committee Member: ICML, NeurIPS, AAAI, IJCAI, AISTATS
- Organising Committee Member, Semantic Web Challenge: Mining HTML-embedded Product Data at International Semantic Web Conference 2020.
- Member of the IEEE Computational Intelligence Society Subcommittee for Outstanding PhD Dissertation Award, 2014, 2015.
- Grant proposal reviewer
  - ▶ Natural Sciences and Engineering Research Council, Canda, 2019 and 2021
  - ▶ National Institute for Health Research (NIHR), UK, 2021.
  - > The Biotechnology and Biological Sciences Research Council (BBSRC), UK, 2018 and 2021
  - ▶ The Engineering and Physical Sciences Research Council (EPSRC), UK, 2018.

- ▶ Wellcome Trust, UK, 2019
- ▶ French National Research Agency, 2020
- ⊳ Irish Research Council, 2017.
- ▶ Romanian National Council for Scientific Research, 2012.
- ♦ Book Reviewer: Cambridge University Press, 2018, 2020, 2021

# PROFESSIONAL MEMBERSHIPS

- ♦ Senior Member, the Institute of Electrical and Electronic Engineers (IEEE).
  - ▷ IEEE Computational Intelligence Society.
  - ▷ IEEE Signal Processing Society.

### **TEACHING**

- ♦ Instructor, Department of Computer Science, the University of Sheffield.
  - ▷ COM4509/COM6509 Machine Learning and Adaptive Intelligence, since Fall 2018.
  - ▷ COM6012 Scalable Machine Learning: Spring 2017, since Spring 2018.
- ♦ Instructor, Department of Computer Science, Hong Kong Baptist University.
  - ▷ COMP1320/2006 Computer Organization: Fall 2014, Fall 2015.
  - ▷ COMP2230/3005 Design and Analysis of Algorithms: Spring 2014, Fall 2014.
  - COMP3090/4075 Introduction to Web Intelligence/Social Computing and Web Intelligence: Fall 2013, Fall 2014, Fall 2015.
  - ▷ COMP3110/4027/7650 Data Mining and Knowledge Discovery: Spring 2015.
  - ▷ COMP7630 Web Intelligence and Its Applications: Fall 2013, Fall 2014, Fall 2015.

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