

CV of Man-Wai MAK

Man-wai MAK, BEng(Hons), PhD, MIET, SrMIEEE
Assistant Professor (1995–2010)
Associate Professor (2010–June 2020)
Professor (July 2020–present)
Interim Head of EIE (Aug 2021–Jun 2023)
Associate Head of EEE (July 2023–July 2024)

Highlight

- Over 200 publications and 3 books
- Associate Editor, IEEE Transactions on Audio, Speech and Language Processing (2011–2014), Journal of Signal Processing Systems
- Three Research Grant Achievement Awards
- Faculty Awards for Outstanding Performance (Research and Scholarly Activities)
- 14 competitive research grants from RGC of Hong Kong
- Area Chair of Interspeech'2014, ICTAI'2016, Programme Co-Chair of ISCSLP'2018
- Co-PI of RGC Theme-based Project (2020–2024)
- Over HK\$3 million industrial grants since 2019.

Brief Technical Profile:

Dr. Man-Wai MAK joined the Department of Electronic and Information Engineering at The Hong Kong Polytechnic University in 1993; presently, he is a professor and Associate Head. He has authored over 200 technical articles in spoken language processing and machine learning. Dr. Mak co-authored the books “*Biometric Authentication: A Machine Learning Approach*,” Prentice Hall, 2005, and “*Machine Learning for Speaker Recognition*,” Cambridge University Press, 2020.

Previous Relevant Research Work:

Prof. Mak has authored over 200 articles in spoken language processing and machine learning. He co-authored two books on biometrics and machine learning, published by Prentice-Hall and Cambridge University Press in 2005 and 2020. Prof. Mak's pioneered the use of multi-stage meta-learning for text-dependent speaker recognition. His recent works on speech-based biomarker selection and depression detection greatly speed up the screening of dementia and depression patients.

RGC Grants in Recent 3 years (PI or Co-PI):

1. Theme-based Research Scheme (2020–2024), *Research and Development of Artificial Intelligence in Extraction and Identification of Spoken Language Biomarkers for Screening and Monitoring of Neurocognitive Disorders*, Co-PI, HK\$2M (Project total: HK\$45M)
2. General Research Fund (2023–2025), *Self-Supervised Speaker Embedding with Mixture Representation Attention for Domain Adaptive Speaker Verification*, PI, HK\$970K
3. General Research Fund (2024–2026), *Meta-Learning with Context Adaptation and Uncertainty Modeling for Text-Dependent Speaker Verification*, PI, HK\$970K

Five Relevant Publications in Recent 3 Years:

1. X.Q. Ke, **M.W. Mak**, and M. Meng, "Automatic Selection of Spoken Language Biomarkers for Dementia Detection", *Neural Networks*, vol. 169, Jan 2024, pp. 191-204.
2. Y.Z. Tu, **M.W. Mak** and J.T. Chien, "Contrastive Self-Supervised Speaker Embedding With Sequential Disentanglement", *IEEE/ACM Transactions on Audio, Speech and Language Processing*, May 2024, pp. 2704-2715.

3. W.W. Lin and **M.W. Mak**, "Model-Agnostic Meta-Learning for Fast Text-dependent Speaker Embedding Adaptation", *IEEE/ACM Transactions on Audio, Speech and Language Processing*, vol. 31, May 2023, pp. 1866-1876.
4. W.W. Lin and **M.W. Mak**, "Robust Speaker Verification using Deep Weight Space Ensemble", *IEEE/ACM Transactions on Audio, Speech and Language Processing*, vol. 31, Jan 2023, pp. 802-812.
4. L.X. Li, **M.W. Mak**, and J.T. Chien, "Contrastive Adversarial Domain Adaptation Networks for Speaker Recognition", *IEEE Transactions on Neural Networks and Learning Systems*, vol 33, May 2022, pp. 2236-2245.

Five Relevant Publications Across Years:

5. W.W. Lin, **M.W. Mak**, N. Li, D. Su, and D. Yu, "A Framework for Adapting DNN Speaker Embedding Across Languages", *IEEE/ACM Transactions on Audio, Speech and Language Processing*, vol. 28, pp. 2810-2822, 2020.
6. W.W. Lin, **M.W. Mak** and J.T. Chien, "Multi-source I-vectors Domain Adaptation using Maximum Mean Discrepancy Based Autoencoders", *IEEE/ACM Transactions on Audio, Speech and Language Processing*, 26, 2412-2422, Dec. 2018.
7. N. Li, **M.W. Mak**, and J.T. Chien, "DNN-driven Mixture of PLDA for Robust Speaker Verification", *IEEE/ACM Transactions on Audio, Speech and Language Processing*, 25, 1371-1383, June 2017.
8. **M.W. Mak**, X.M. Pang, and J.T. Chien, "Mixture of PLDA for Noise Robust I-Vector Speaker Verification", *IEEE/ACM Trans. on Audio Speech and Language Processing*, 24, 130-142, 2016.
9. N. Li and **M.W. Mak**, "SNR-Invariant PLDA Modeling in Nonparametric Subspace for Robust Speaker Verification", *IEEE/ACM Trans. on Audio Speech and Language Processing*, 23, 1648-1659, Oct. 2015.

Editorials:

Associate Editor:

- IEEE Trans. on Audio, Speech and Language Processing
- IEEE Biometrics Compendium
- Journal of Signal Processing Systems for Signal, Image, and Video Technology

Guest Editor:

- Journal of VLSI Signal Processing, 2008
- International Journal of Computational Intelligence Research, 2007
- Journal of Signal Processing Systems, 2016
- International Journal of Machine Learning and Cybernetics, 2016

Awards:

- Faculty of Engineering Research Grant Achievement Awards, 2003, 2009 and 2016
- Faculty Awards for Outstanding Performance (Research and Scholarly Activities), 2017
- Tencent AI Lab Rhino-Bird Focused Research Program Excellence Award, 2019

Others:

- Google scholar citations (as of Oct 2024): 4970, h-index 37, i10-index 126
- Assessment Panel, ITF - ESS, 2021 - 2025.
- Successful supervision of 10 Ph.D. and 7 MPhil students
- 27 invited talks
- Area Co-Chair of Interspeech 2014, ICTAI2016, PCM07
- Programme Co-Chair of ISCSLP'2018 and ISCSLP'2021; Technical Programme Committee member of AAI'2021, Odyssey'2020, ASRU'2019, Interspeech'2019, etc.