LI, FEIFEI

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EDUCATION

National University of Singapore **Aug 2025 - Present**
Master of Computing

University of Toronto **Sep 2017 - Apr 2023**
Honours Bachelor of Science
- Bioinformatics and Computational Biology Specialisation; Statistics Major
- Graduated with Distinction

WORK EXPERIENCE

Medical AI Model Research **Sep 2022 - Apr 2024**
Peter Munk Cardiac Centre, University Health Network
- Collaborated within a 3-5 person AI team; built pipelines for processing 19 CT and 12 MRI datasets from the Cancer Imaging Archive (TCIA) in one week
- Contributed to the development of the medical image foundation model MedSAM; benchmarked the model against U-Net and DeepLabV3+ specialist models and performed evaluation for segmentation results of 86 internal validation tasks and 60 external validation tasks
- Improved the classification accuracy of a pathology image foundation model on BRCA mutations in whole slide images of ovarian cancer from 24% to 74% by developing a transformer-based multi-instance learning framework
- Informally onboarded new team members on codebase, workflows, and best practices

Research Intern | R Package Developer **May 2022 - Dec 2022**
Princess Margaret Cancer Centre, University Health Network
- Collaborated with senior developer and PhD researcher to analyse synergistic effects of drug combinations on cancer cell lines
- Investigated four scoring models for quantifying synergistic effects of drug combinations
- Implemented drug synergy models for R package PharmacoGx 3; authored user documentation and tutorials; 3800+ downloads since update release

SKILLS

- Languages: R (proficient), Python (advanced), Linux shell (advanced), Java (intermediate), C (intermediate)
- Tools: SVN and R (advanced), SLURM (advanced), Conda (advanced), Docker (intermediate)
- Libraries: PyTorch (advanced), NumPy (advanced), Pandas (advanced), Bioconductor (advanced)

ADDITIONAL EXPERIENCE

Coordinator **Dec 2023 - Oct 2024**
CVPR 2024 Challenge: Foundation Models for Medical Vision 2
- Co-organised international competition within a 3-person team; developed the baseline model LiteMedSAM for the competition
- Served as primary point of contact for 254 participants across 20+ teams, handling inquiries on registration, rules, evaluation criteria, and technical troubleshooting
- Managed end-to-end competition administration, evaluated participants' submitted solutions, and reviewed submitted papers

PUBLICATIONS

- Ma, J., He, Y., Li, F., Han, L., You, C., and Wang, B.: Segment Anything in Medical Images. Nature Communications 15, 654 (2024) (GitHub stars 3k+; Google Scholar citations: 1000+)
- Ma, J., Li, F., and Wang, B., U-Mamba: Enhancing global representations with structured state spaces for medical image segmentation. arXiv preprint arXiv:2401.04722 (2024) (GitHub stars 600+; Google Scholar citations 290+)
- Ma, J., *Kim, S., *Li, F., Baharoon, M., Asakereh, R., Lyu, H., and Wang, B., Segment Anything in Medical Images and Videos: Benchmark and Deployment. arXiv preprint arXiv:2408.03322 (2024) 2
- Ma, J., *Li, F., *Kim, S., et al., Zhou, Y., and Wang, B., Efficient MedSAMs: Segment Anything in Medical Images on Laptop. arXiv preprint arXiv:2412.16085 (2024)