YIMING JIA

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EDUCATION

Department of Computer Science, University of Toronto *Sep. 2023 - Jun. 2025*

M.Sc. in Applied Computing(MScAC) *Toronto, Canada*

Core Courses: Neural Networks and Deep Learning, Computational Imaging, Natural Language Computing, Topics in Storage Systems

School of Computer Science, Beijing University of Posts and Telecommunications *Sep. 2019 - Jun. 2023*

B.E. in Software Engineering, GPA: 92.04/100, Ranking: 1/178 *Beijing, China*

Core Courses: Principles of Operating Systems (95), Algorithms and Data Structures (93), Principles of Database Systems (93), **C**ompiler Principle and Technology (94), Computer Networks (95)

Mathematics: Advanced Mathematics (I) (100), Advanced Mathematics (II) (98), Linear Algebra (91), Discrete Mathematics (90), Probability Theory and Stochastic Processes (100)

RESEARCH EXPERIENCE

Research Intern; Advisor: Prof. Jun Ding *May 2022 - Nov. 2023*

Meakins-Christie Laboratories, McGill University *Montreal, Canada (remote)*

- Devised and trained whole pipeline intergrated GCN+VAE model to derive gene embeddings.
- Proved the strong biological significance of the embeddings through GO Enrichment Analysis.
- Our paper is currently under review by RECOMB! More detailed information inside!

Research Intern; Advisor: Prof. Chuan Shi *Mar. 2022 - Jun. 2022*

GAMMA Lab, Beijing University of Posts and Telecommunications *Beijing, China*

- Contributed to GammaGL and implemented JK-net based on TensorLayerX.
- Reproduced and optimized the experimental results of JK-net and APPNP in GammaGL.

WORK EXPERIENCE

New Software Development Department, Sony Corporation *Jul. 2022 - Feb. 2023*

Edge AI Engineer Intern *Beijing, China*

- Reproduced and trained CenterMask based on Google object detection API with the Fashionpedia dataset.
- Optimized segmentation performance of the model in PC simulations. Simplified, quantified, and transplanted my model to Sony IMX-500 chips (Float32 to Int8).
- Designed and implemented Convolutional Autoencoder to compress the size of segmentation output to meet the Wi-Fi module's bandwidth demands.

PROJECT

CSC2529 Course Project——FA-UNet *Sep. 2023 - Dec. 2023*

- Design and implement an Attention-UNet-based frequency domain image denoising and deblurring model.
- Propose a 3-stages training pipeline for the model to improve denoising and deblurring performance.
- Successfully produced a poster and final report, both of which are available on GitHub.

SKILLS

Programming Language: Python, Java, C/C++, Bash, SQL, R, JavaScript

Software: Hadoop, Hbase, Django, Spring, Docker, Git, Unity

AI & ML: PyTorch, TensorFlow, Numpy, Pandas, OpenCV, matplotlib, Scipy