

# YIMING JIA

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## EDUCATION

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**School of Computer Science, Beijing University of Posts and Telecommunications** Beijing, China

*B.E. in Software Engineering, GPA: 92.12/100, Ranking: 1/178*

*Expected in July 2023*

**Core Courses:** Principles of Operating Systems (95), Algorithms and Data Structures (93), Principles of Database Systems (93), Compiler 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

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**Research Intern; Advisor: Prof. Jun Ding**

From May 2022

Meakins-Christie Laboratories, McGill University

Montreal, Canada (remote)

- Analyzed and preprocessed time-series single-cell data using PCA, UMAP, Clustering, FFT, etc.
- Proposed a unique way to represent genes with frequency domain data.
- Transformed the PPI into a graph structure representing the associations between genes through KNN.
- Devised and trained the GCN+VAE model to derive embeddings for genes.
- Proved the strong biological significance of the embeddings through GO Enrichment Analysis.
- Conducted ablation experiment to prove the significance of FFT.
- Co-authoring thesis with Prof. Jun Ding.

**Research Intern; Advisor: Prof. Chuan Shi**

March 2022 - June 2022

GAMMA Lab, Beijing University of Posts and Telecommunications

Beijing, China

- Read and summarized papers on GNNs.
- Explored the real-world problems that GNNs solve and their applicability.
- Contributed to [GammaGL](#) and implemented JK-net based on [TensorLayerX](#).
- Reproduced and optimized the experimental results of JK-net and APPNP in [GammaGL](#).
- Compared the different performances of the model on different backends and analyzed the reasons.

## WORK EXPERIENCE

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**New Software Development Department, Sony Cooperation**

From July 2022

Edge AI Engineer Intern

Beijing, China

- Read and summarized papers on object detection and instance segmentation.
- 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.
- Tested and improved the model's overall performance on Sony cameras.
- Designed and implemented Convolutional Autoencoder to compress the size of segmentation output to meet the Wi-Fi module's bandwidth demands.

## EXTRACURRICULAR ACTIVITIES

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**MIT Summer Online Program, Machine Learning Plus in Computer Vision** July 2021 - August 2021

- Learned elementary knowledge of machine learning and cutting-edge models.
- Explored the application of machine learning in the field of computer vision.
- Designed and implemented FCN to realize semantic segmentation of street view.

## HONORS & AWARDS

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**Merit Student of Beijing University of Posts and Telecommunications** 2022

**1st Prize in The Chinese Mathematics Competitions (CMC)** 2021

**2nd Scholarship - CNY3,000** 2020 & 2021 & 2022

## SKILLS

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**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, Scipy

**Language:** English (TOEFL: 105/120; GRE: 324/340), Chinese (native)