YIMING JIA

+86 15611306199 | jiayiming711@gmail.com | jymmmmm.github.io

EDUCATION

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

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

New Software Development Department, Sony Corporation   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

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

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

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)