YIMING JIA

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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)

RESEARCH EXPERIENCE

Research Intern; Advisor: Prof. Jun Ding From May 2022

Meakins-Christie Laboratories, Mcgill University Montreal, Canada (remote)

- Joint worked with Prof. Jun Ding.
- Analyzed and preprocessed time-series single-cell data using quantitative methods including PCA, 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.
- Developed and trained the GCN+VAE model to further explore genes' embeddings and relationships.
- Proved the biological significance of output embeddings from our model through GO Enrichment Analysis.
- Conducted ablation experiment and proved 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

- Explored the real-world problems that GNNs solve and the fields of their application.
- Read GNN-related papers at top conferences, and shared insights with lab members at weekly meetings.
- 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 same model on different backends like Tensorflow and PaddlePaddle and analyzed the reasons.

WORK EXPERIENCE

New Software Development Department, Sony Cooperation From July 2022

Edge AI Engineer Intern Beijing, China

- Read papers related to lightweight models in object detection and instance segmentation.
- Reproduced and trained CenterMask based on Google object detection API with the Fashionpedia dataset.
- Realized human clothing segmentation and optimized the model in PC simulations.
- Simplified, quantified, and transplanted my model to Sony IMX-500 chips.
- Tested and improved the model's performance on Sony cameras.
- Designed and implemented compression algorithms for model inference results to save hardware bandwidth.

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.
- Discovered 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)