Yijia (Jessica) Gao

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EDUCATION

University of Michigan - Ann Arbor **Ann Arbor, MI**
Master of Science in Computer Science and Engineering *Expected May 2025*
Coursework: Operating System, Parallel Computing

University of Michigan - Ann Arbor **Ann Arbor, MI**
Bachelor of Science in Data Science (GPA: 3.6 / 4.00) *September 2021 – May 2023*
Coursework: Computer Organization, Web Systems, Data Structures & Algorithms, Database, Information Retrieval, ML

Shanghai Jiao Tong University - UM-SJTU Joint Institute **Shanghai, China**
Bachelor of Science in Electrical and Computer Engineering (GPA: 3.4 / 4.00) *September 2019 – August 2023*
Coursework: Signal and Systems, Circuits, Embedded System Design, Semiconductor

WORK EXPERIENCE

Research Assistant: "GenomicKB: a Knowledge Graph for the Human Genome" **Ann Arbor**
Graph Database Full Stack Development (https://gkb.dcmb.med.umich.edu/) *June 2022 – Present*

- Designed, developed, and maintained an interface for querying genomic information via drawing and editing a graph with tools including JavaScript, React, Flask, Python, HTML, Neo4j, Vis.js
- Contributed to the migration of Version 2.0, adding Material UI, Redux and ForceGraph2D
- Cooperated with the backend team to build the web infrastructure and optimize the whole system
- Co-authored paper "GenomicKB: a Knowledge Graph for the Human Genome". Published to "Necleic Acids Research". (DOI: https://doi.org/10.1093/nar/gkac957)

PROJECT EXPERIENCE

Shanghai Jiao Tong University - UM-SJTU Joint Institute **Shanghai, China**
Simulated Cloud-local Joint Energy Coordination Platform *June - August 2023*

- Implemented in Python to develop a renewable energy system hosted on Tencent Cloud by integrating centralized cloud-based scheduling and prediction, networking layer, and distributed local controls based on Raspberry Pi
- Cooperated with team members to establish the overall structure and the use of local weather forecast APIs to build the foundation of scheduling and prediction rules

University of Michigan **Ann Arbor, MI**
Information Retrieval - Reddit Post Suggesting System *April 2022*

- Developed a Python-based tool utilizing web crawl, text rank, BERT, and tf-idf methods to enhance content creation and posting on r/uofm, with features including tag suggestion and post retrieval
- Evaluated and improved content relevance and search accuracy by cooperating with team members

Client-Server Instagram Replica - Full Stack Development *March 2022*

- Implemented in Python, JavaScript, HTML, SQL, and React to build an Instagram replica deployed to AWS to practice knowledge behind Client-Server applications, Rest APIs, and web system development
- Communicated with team members to build web architecture and full-stack design of the application

Dog Image Classifier Based on Convolutional Neural Networks *March 2022*

- Developed and implemented a supervised deep learning approach using convolutional neural networks (CNNs) to classify dog images by breed, achieving accurate breed identification
- Utilized transfer learning through supervised pretraining and data augmentation techniques to enhance classification accuracy and improve model robustness

SKILLS

Programming Languages: C/C++, Python, JavaScript, SQL, MongoDB, HTML/CSS, MATLAB, Shell
Applications: Git, React, Flask, Numpy, Linux, AWS, VS code, IntelliJ

ACTIVITIES

Table Tennis Athletes (US - NCTTA rating 2054) *2010 – Present*