Yuting (Kyra) Lu

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EDUCATION

NORTHEASTERN UNIVERSITY **Seattle, US**
Master of Science in Computer Science 09/2023 – 06/2025(*Expected*)
SHANGHAI UNIVERSITY **Shanghai, China**
Bachelor of Engineering in Automation 09/2019 – 06/2023

- **Coursework:** Circuits, Digital/ Analog Circuits, Robotics, Programmable Logic Controllers, Machine Learning and Neural Networks, Computer Networking, Digital Graphics Process, Data Structure & Algorithms

Skills

- **Programming Languages:** Java, JavaScript, HTML/CSS, SQL, Python, C/C++ , TypeScript, C#, MATLAB
- **Frameworks:** Spring Boot, React, Hibernate, Node.js, Angular, Vue, JUnit, Tensorflow, Pytorch, Flask, Django
- **Tools:** Git, Docker, AWS, Maven, MongoDB, Unit Test, Puppeteer, MySQL, Postman, npm, Ubuntu, Linux, ROS, Shell, Bash

INTERNSHIPS

ABB(China), Ltd **Shanghai, China**
Engineer Intern 07/2022 – 12/2022

- Developed an **automated testing program** using **C#** to streamline thermal testing procedures, minimizing manual redundancy
- Implemented real-time temperature monitoring and hardware alignment for **robotic movements** using **Python** for data analysis, resulting in increased operational efficiency and reduced manual intervention
- Ensured efficient data management across multiple tables by conducting comprehensive data storage and analysis through the utilization of **SQL scripts** on a **MySQL** database containing more than 1000 rows

Shanghai Bright Power Semiconductor Co., Ltd **Shanghai, China**
Electronic Intern 08/2021 – 09/2021

- Designed and compared different testing circuits to ensure better performance of the chips

PROJECT EXPERIENCE

MEAN based Fullstack Trello clone

- Utilized **Angular** and **TypeScript** to build a user-friendly client-side application
- Employed **Node.js** in conjunction with **Express** to develop backend, and leveraged **MongoDB** as the database solution for storing and managing project data
- Managed data flow and application state with **NgRx** middleware, reducers, and observable-based state management
- Implemented real-time notification and updates using **WebSocket** functionality through **Socket.IO**

Student Learning Management Platform

- Architected the Student Learning Management Platform, leveraging **Spring Boot**, **Spring MVC**, **JPA**, **Hibernate**, and **MySQL** to establish **RESTful APIs**
- Designed and developed a responsive and user-friendly frontend using **React.js**, enhancing the educational experience
- Implemented user registration, complete with email verification capabilities, ensuring security and user privacy, and making use of **Spring Security** to safeguard sensitive data
- Deployed the system on **Google Cloud** servers for scalable and reliable performance

Bird Detection using Neural Network and Deployment on FPGA

- Leveraged a **neural network** deep learning model in **Python** and **TensorFlow** to achieve real-time bird detection
- Conducted **model training** on the Google Cloud Platform, using a dataset comprising more than 2000 bird images
- **Fine-tuned** YOLOv3 model parameters, resulting in a more than 10% improvement in model recall and enhanced precision
- Successfully **deployed the training model** on an FPGA (Xilinx KV260), implemented the neural network model on the FPGA within the **Ubuntu**, achieved an impressive 85% precision rate and a processing speed of 30 frames per second (fps)

Recommendation System based on Steam games

- Managed to use singular value decomposition method with **Python** to deal with the huge dataset of players and developed a new way of generating ratings to deal with the existed playtime, achieved a global recall of 35%
- Tuned relevant parameters, delivered a more than 10% recall improvement and became more precise in recommendation

Chinese Character Style Transfer with Neural Network

- Utilized a **Conditional Generative Adversarial Network** (cGAN) to transform the style of a Chinese font to different characters
- Incorporated two distinct loss functions to **optimize the training** and achieve improved results
- Implemented U-Net to replace the traditional encoder-decoder network, minimized the information loss through the network