YIXIONG YUAN

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Education

New York University Tandon School of Engineering — Brooklyn, NY
- *Master of Science in Computer Engineering* — **GPA**: 3.9 / 4.0 — Sep. 2021 - May 2023

Sichuan University — Chengdu, China
- *Bachelor of Engineering in Computer Science* — **GPA:** 3.5 / 4.0 — Sep. 2016 - Jun. 2020

Skills

- Programming Languages : Java, JavaScript, SQL, Python, C/C++, TypeScript, HTML/CSS
- Frameworks & Tools : SpringBoot, React, Node.js, Angular, AWS, Git, Docker, Mybatis, Linux
- Expertise Area : Website Development, Data Structure and Algorithm, Deep Learning

Experience

Ewedee — Jersey City, NJ
Software Developer — Jun. 2023 - Present
- Designed and Developed a commodity trading platform for market data collection, integrating **React** for the front-end and **Node.js** for the back-end.
- Implemented secure user authentication with **JWT** for account creation and access control, adding admin role to manage product information, order records and user reviews.
- Utilized **MongoDB** and Mongoose ODM for data storage and management, enabling in-depth analysis.

Shenzhen Extreme Vision Technology Co., Ltd — Shenzhen, China
Algorithm Intern — Oct. 2020 – Jul. 2021
- Launched vision software for subway security checkpoints; Introduced and deployed the object detection model (**YOLO-v5 + Openvino**) to identify prohibited items in images, resulting in an F1 score improvement from 82% to 91%.
- Proposed a graphical algorithm to enhance precision in video tracking; adopted **Sobel operator** horizontal matching methodology to replace the old sub-pixel scale approach, eliminating the jittering bug caused from pixel round-off errors (objects appear stationary, but the offset fluctuates between -1 and 1).
- Enhanced the frontend interface under **Qt** framework and resolved the issue of text overlapping; organized all word labels and created empty spaces for neighboring labels, achieving a clear multi-content presentation on the screen.
- Applied multithreading to optimize the backend logic of video processing system; managed the queue as the frame buffer to balance the I/O ratio, preventing frame loss and obtaining a smooth playback effect.
- Implemented the deep learning production pipeline; Constructed the dataset from traffic monitoring camera videos; trained and inferred the recognition model (**ResNet)** using **PyTorch**, ONNX, and **TensorRT**, resulting in a 12% reduction in processing time.

Self-Development Projects

Movie Reviewing System — Dec. 2022 – Feb. 2023
- Composed front-end pages displaying content using **HTML / CSS** and fulfilled the data CRUD interaction under **Spring MVC** Framework by implementing Restful APIs.
- Employed **MySQL** as the database to handle movie data and Demonstrated expertise in deploying the project on **AWS** EC2 instance with Tomcat as the web server.

P2P Network Model Design — Apr. 2023 – May 2023
- Formulated a mathematical model for P2P multicasting in overlay networks, allowing the selection of different types of access links from the ISP pool to minimize costs.
- Implemented the heuristic Create-Tree algorithm in **Java** and compared the results with the optimal solution from the CPLEX Solver, leading to a significant reduction in execution time while also generating appropriate costs.