

Yongjie Xue

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Work Authorization: Permanent resident of the US

Education

University of Nebraska-Lincoln

Master of Science in Computer Science (GPA: 3.858/4)

Sep. 2022 - May 2024

Lincoln, NE, USA

Projects

AdaMap: High-Scalable Real-Time Cooperative Perception at the Edge (Toyota Project) | *Autonomous driving, Computer Vision, Point Cloud, Edge Computing, deep learning*

- Collected and synthesized large-scale **CARLA** dataset in different modality to bolster the AdaMap.
- Utilized **PointPillar** and **Kalman Filter** for efficient Hybrid Object Localization. Developed a Variational Autoencoder (VAE) with early-exit tunnel structure to enable flexible Point Cloud Representation, implemented by **PyTorch**.
- Employed **object matching** based on geo-location to circumvent the complexities posed by dynamic objects.
- Developed a graph-based selection algorithm, incorporating Iterative Closest Point (ICP) and Approximated Gradient Descent (AGD), to enhance the optimization of data transmission among vehicles.
- Implemented the proposed method in a distributed manner, achieving a substantial reduction in over-the-air transmission data size by up to **49 times**, with a minimal reconstruction loss of just **0.37**.

Employee Management System (Fullstack) | *React.js, Tailwind, MongoDB, Django, Postman*

- Created the user interface based on the layouts designed in **Figma**.
- Developed an employee system where users can sign in, sign up, post, search, and deployed the system on Vercel.
- Leveraged **TypeScript** to ensure code readability and guarantee the integrity of data types across the application.
- Designed user interfaces with **React.js** and **Tailwind**, used React Router to navigate to different pages.
- Implemented authentication with **JWT** and created auto-refresh tokens to ensure the effectiveness of passwords.
- Built the back-end system with Python, designed and managed **RESTful APIs** with **Django**.
- Tested apis functions with **Postman**, utilized **PyMongo** to execute CRUD operations on **MongoDB Atlas**.

Experience

Siemens Shanghai Medical Equipment Ltd

Software Developer

Aug 2019 – April 2022

Shanghai, China

- Led the development and successful implementation of an innovative user interface using **HTML5 + CSS**, integrated with the Tobii API. This work facilitated contactless operation in a laboratory setting and introduced a new standard for user interaction in scientific environments..
- Collaborated with the QA Department to develop **Python**-based Automated Packaging Software, achieving a 90% reduction in software packaging and release time, significantly improving the department's workflow.
- Designed and executed a Generative Adversarial Networks (**GAN**) model to enhance the quality of medical images. This model, when integrated into the mobile C-arm pipeline, resulted in a 20% improvement in image quality, contributing to intra-procedural confidence during embolizations.

Technical Skills

Languages: Python, JavaScript, C++, Java, SQL, TypeScript

Developer Tools: Git, React.js, Django, Postman, GraphQL, Jest, TensorFlow, PyTorch

Concepts: Software Development, Software Testing, Linux, Website development, Computer vision, Artificial Intelligence, Edge Computing

Certification: Meta Front-End Developer

Publications

Xue, Yongjie, et al. "CoMap: Proactive Provision for Crowdsourcing Map in Automotive Edge Computing." IEEE International Conference on Communications, 2023.

Xue, Yongjie, et al. "AdaMap: High-Scalable Real-Time Cooperative Perception at the Edge." IEEE/ACM SEC , 2023.