

# Di Qiu

Los Angeles, USA

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## Education

### University of California, Los Angeles

Master of Engineering in Artificial Intelligence (Computer Science)

Sept. 2024 - Sept. 2025 (Expect)

Los Angeles, USA

### Peking University

Bachelor of Science in Computer Science and Technology

Sept. 2020 - Jul. 2024

Beijing, China

## Technical Skills

**Programming Languages:** C&C++, Python, Golang, C, SQL, Java, JavaScript, Matlab, HTML, CSS

**Technologies/Frameworks:** Qt, Flask, Django, Node.js, React.js, MySQL, Pytorch, Tensorflow, OpenCV, Git, Docker

## Experience

### ByteDance Ltd.

Backend Developer Intern, Data-Arch Team

Sept. 2023 - Dec. 2023

Beijing, China

- Engineered and deployed 10 TikTok chatbots using **Flask**, optimizing them to seamlessly interact with users, leverage LLMs, and deliver responsive reply cards.
- Optimized the company's demotion platform with **Django** by implementing a manual review feature and integrating it with ByteCycle testing platform, resulting in a reduction of over **50%** of the platform's online issues.
- Enhanced a product line management system with **Python** and **SQL** by adding database fields to manage priority and sampling information, supporting various trigger data types and configurations.
- Refined trigger configuration in Tbase by optimizing field selection and trigger data types. Enabled dynamic field selection for different data types, improving flexibility and reducing training sample production costs by **30%**.

### Midea Group

Algorithm Intern, Robotics Team

Apr. 2023 - Sept. 2023

Beijing, China

- Considered integrating imperfect demonstrations into the **offline imitation learning** for robot manipulation tasks.
- Proposed a novel framework that calculates accurate quality scores using a **pre-trained transformer** and then does **weighted behavior cloning** with the high-quality imperfect demonstrations, using them to enhance performance.
- Collected and curated **5,000+** simulated trajectories, generating **10** training sets with varied ratio combinations.
- Enhanced the **Maniskill2** framework with competitive algorithms like **Behavior Cloning**, **Decision Transformer** and **DemoDICE**; introduced new features, including failure trajectory logging using **PyTorch**.
- Conducted comprehensive experiments across 7 methods and 6 tasks, achieving a **12%** increase in average success rate over state-of-the-art (SOTA) methods.

### DiDi Global Inc.

Backend Developer Intern, AIoT Platform Team

Mar. 2023 - Apr. 2023

Beijing, China

- Independently designed and developed a HPC(High Performance Computing) job accounting tool to store job-related information in a database using **Golang** and **SQL**, facilitating performance analysis and optimization.
- Created CLIs(Command Line Interface) for speech data analysis and model training with **Gin** and **Cobra**, improving the company's machine learning platform and boosting model development efficiency.

## Projects

### Monocular Depth Estimation for Spike Camera | Python, Pytorch, PLT, OpenCV

May. 2023

- Preprocessed KITTI dataset and utilized a novel method to interpolate it, generating a new dataset of **156** sequences.
- Optimized code using **multi-core** processing to speed up reading compressed data, achieving an **8x** performance boost.
- Trained and evaluated our model. It outperforms the other methods across nearly all evaluative metrics by **20%**.
- Visualized experimental results using **PLT** and **OpenCV**, generating over **20** figures and demonstrations for the paper.

### Comprehensive Computer Network Protocol Implementation | C++

Jan. 2023

- Implemented a simplified TCP-based file transfer protocol (**FTP**) that supports connection, authentication, file upload, and download operations.
- Developed a reliable transport protocol (**RTP**) based on UDP that ensures ordered and reliable delivery of UDP datagrams, handling events such as packet loss, delay, corruption, duplication, and reordering.
- Developed a basic layer 2 switch, implementing simple forwarding, broadcasting, and forwarding table learning capabilities, along with an aging function to manage the forwarding table entries.