Shengjie Ma

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Education

Peking University | *Beijing, China*   **09/2019 – 07/2023 (expected)**

- B.S. in Computer Science and Technology
- GPA: 3.78/4 | Ranking: 22/200

Awards and Honors

CMS Scholarship	**09/2022**
Shenzhen Stock Exchange Scholarship	**09/2021**
1st Prize in National Olympiad in Informatics in Provinces	**11/2017**

Professional Experience

Backend Research & Development Intern   **03/2023 - Present**

Inter-City Ride-Sharing Team, DiDi Global

- Built an inter-city travel routes optimization tool using hot area discovery
- Implemented a test case generator that fires 100+ requests per second utilizing data from past rides
- Assisted a four-member group with feature development and bugfixes on the ride-sharing engine

Research Experience

Research Intern   **08/2021 - 11/2022**

Multimedia Information Processing Lab, Peking University, Supervised by Prof. Yang Liu

- Extended Novel Category Discovery task by introducing semantic labels for categories of interest to enable simultaneous clustering and recognition of unseen categories
- Designed a mutual information knowledge transfer mechanism allowing the two tasks to benefit each other
- Built a cross-modal dynamic memory bank to associate visual instances with their semantic labels

Projects

Multi-Resource Aware Serverless Function Scheduling | *Undergraduate Dissertation (ongoing)*

- Design a serverless scheduling algorithm that boosts resource utilization by pipelining function workloads
- Implement the scheduler including a Python client and a C++ controller

Inter-City Travel Routes Optimizing Tool | *for the Inter-City Ride-Sharing Team at DiDi Global*

- Optimized inter-city travel routes to be more driver-friendly by restricting start and end positions within hot areas
- Proposed optimization plans for tens of route groups using the tool, increased the answer rate in Kunming city by ~20%
- Provided interactive visualization based on Uber's open-source project kepler.gl

Youming BBS | *JavaScript and HTML Web Pages Course Project*

- Built and deployed a bulletin board website where users log in to open threads and post comments
- Implemented the front with HTML/CSS/JavaScript, backend with Python Flask and MySQL

PintOS | *Operating Systems Course Project*

- Implemented priority scheduling, MLFQ scheduling, user program, system calls, and virtual memory for an instructional operating system with 2000+ lines of C code

Skills

- English proficiency: TOEFL 109 | GRE 331
- Programming languages: C/C++, Python, Java, JavaScript
- Software: Linux, Git, LaTex