Justin He

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Education

University of California, Los Angeles (UCLA) Sep. 2024 – Jun. 2025
Masters of Science in Computer Science (Planned) *Los Angeles, CA*

University of California, Los Angeles (UCLA) Sep. 2020 – Mar. 2024
Bachelor of Science in Computer Science, Bachelor of Science in Applied Mathematics *Los Angeles, CA*

- GPA: 4.0/4.0
- Coursework (CS): Natural Language Processing (Graduate), Operating Systems, Computer Networking, Computer Architecture, Databases, Programming Languages, Machine Learning, Artificial Intelligence, Algorithms
- Coursework (Math): Analysis (Honors), Stochastic Processes, Optimization, Game Theory, Linear Algebra
- Activities: Reader for Programming Languages & Data Management Systems, Officer for Upsilon Pi Epsilon

Experience

Software Engineer Intern Jun. 2023 – Aug. 2023
Citadel Securities *New York, NY*

- Trading Ecosystem, working on high-performant trading infrastructure
- Built services for automatic error detection & correction of executions across multiple order systems, reducing error investigation time from hours to seconds
- Developed Python utilities to re-compile Kafka protobufs into q/kdb+, enabling high-performance data processing
- Created a performance benchmarking framework for the trade booking system to experimentally improve latency and fault-tolerant performance under loads of up to 100,000 simultaneous orders

Software Engineer Intern Jun. 2022 – Sep. 2022
Meta (Facebook) *Menlo Park, CA*

- Under Instagram Demand & Efficiency Management, focused on optimizing Instagram's backend efficiency
- Coordinated a cross-team project developing metrics for experiments to estimate engagement ROI of new features
- Led the development of a power usage management dashboard for 25 Instagram services across 500,000 servers
- Built tools for aggregating power usage of features and linking data across 1,250+ launches and regressions

Software Engineer Intern Jun. 2021 – Sep. 2021
Fwaygo *Los Angeles, CA*

- Developed microservices in Go for user/song data processing, report handling, and server-to-client messaging
- Utilized RabbitMQ to facilitate interservice pub/sub communication between Docker container clusters on GKE
- Created GraphQL APIs for user/song queries & mutations and integrated them into a React Native frontend

Software Developer Apr. 2021 – Jun. 2021
NurLabs *Los Angeles, CA*

- Collaborated with UCLA researchers on using machine learning to detect lung cancer from spectroscopy data
- Developed a script to batch extract spectroscopy data from .WDF files, accelerating data extraction from 2 minutes per file to under 1 second overall
- Created a server and API for receiving and storing client information using PostgreSQL, Node, and Express

Projects

GNN Integration to Knowledge Graph for Nephrology QA System Mar. 2022 – Jun. 2022

- Collaborated with three UCLA PhD & Master's students to train novel QA models for joint reasoning across language models and knowledge graph-enhanced GNNs to answer nephrology questions
- Tuned GreaseLM and QA-GNN models under various hyperparameter and knowledge graph configurations to achieve state-of-the-art accuracy of 37.2% for questions with 5 answer choices
- Applied mention detection, entity linking, and relation extraction using spaCy to generate a specialized knowledge graph and annotated QA dataset
- Automated cleaning of textual data from 563 textbook chapters and 814 research articles about nephrology

Technical Skills

Languages: C++, Python, Go, JavaScript, Java, C, SQL, PHP, Bash, Verilog
Libraries: NumPy, Pandas, Matplotlib, PyTorch, SciPy, React, Node, Express, GraphQL
Technologies: Git, Docker, Makefile, Google Cloud, AWS, Firebase, MySQL, PostgreSQL