Justin He

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Education

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

- GPA: 4.0/4.0; *summa cum laude*; Phi Beta Kappa
- Activities: Grader for Programming Languages, Databases; Leadership for Upsilon Pi Epsilon
- 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

Experience

Software Engineer Apr. 2024 – Present
Meta *New York, NY*

- Facebook Scam & Trust, ML and infrastructure for scam detection on Facebook

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

- Trading Ecosystem, focused on optimizing trading infrastructure performance
- Built services to trace executions across order infrastructure for error detection & correction, reducing error investigation time from O(hours) to O(seconds)
- Wrote internal library for streaming Kafka messages to q/kdb+, improving data throughput by 1.5x
- Developed infrastructure to simulate loads of 100k+ orders for trade booking system to stress test and benchmark latency and reliability

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

- Instagram Demand & Efficiency Management, focused on improving Instagram's backend power efficiency
- Led cross-team project to develop a system to measure engagement change per kW used of potential new features
- Built dashboard to manage power consumption across 25 Instagram services and 500k+ servers
- Developed algorithm to triage power regressions to launches by correlating launch data with power time series data

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

Projects

GNN Integration to Knowledge Graph for Nephrology QA System (Paper) 2022

- Collaborated with two UCLA PhD students to train novel QA models for joint reasoning across language models and knowledge graph-enhanced GNNs to answer nephrology questions
- Tuned GreaseLM + QA-GNN models via hyperparameters and knowledge graph configurations; Achieved 37.2% accuracy on nephrology QA tasks (SOTA at the time)
- Applied mention detection, entity linking, and relation extraction using spaCy to generate a specialized knowledge graph and annotated QA dataset
- Extracted and cleaned text data from 563 textbook chapters and 814 research articles about nephrology

Technical Skills

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