

Justin He

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EDUCATION

University of California, Los Angeles (UCLA)

Sep. 2020 – Jun. 2023

Bachelor of Science in Computer Science, GPA 4.0

Los Angeles, CA

- Coursework: Natural Language Processing (Graduate), Operating Systems, Databases, Computer Architecture, Machine Learning, Artificial Intelligence, Algorithms & Complexity, Probability, Linear Algebra
- Activities: Upsilon Pi Epsilon (UPE) - Corporate Chair, Creative Labs - Project Developer, Association for Computing Machinery (ACM)

EXPERIENCE

Software Engineer Intern

Jun. 2022 – Sep. 2022

Meta

Menlo Park, CA

- Under Instagram Demand & Efficiency Management, focused on optimizing Instagram's backend efficiency
- Spearheaded development of administrator dashboard for managing power usage metrics of 25 Instagram services across 500,000 servers
- Developed internal tools used by 2,000 engineers for aggregating feature launch impacts and promoting connectivity across 1,250+ launches and regression tasks
- Created heuristic for correlating sustained computing performance and resource changes with launches
- Expanded data collection rules to strengthen data robustness and completeness for products affected by launches

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 the React Native frontend

Software Developer

Apr. 2021 – Jun. 2021

NurLabs

Los Angeles, CA

- Collaborated with UCLA researchers to develop a script for batch extracting spectroscopy data from .WDF files to train a machine learning lung cancer detection model
- Improved data extraction time from 2 minutes per file to less than one second overall
- Created a server and API for receiving and storing client information using PostgreSQL, Node, and Express
- Practiced agile scrum methodology through daily stand-ups with founders from UCLA Anderson

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 test 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 data from a nephrology corpus consisting of 563 textbook chapters and 814 research articles

Roblox Reviews | Python, React, TypeScript, Google Cloud Platform, MySQL

Jun. 2020 – Dec. 2021

- Developed a full-stack web app using React offering game review services and statistics for 3,000+ users
- Designed APIs for accounts, reviews, and full text game searching using Python, Cloud Functions, and MySQL
- Utilized BeautifulSoup to scrape Roblox pages for game metadata to store in a database
- Published an extension to Chrome store adding a rating interface to roblox.com with Roblox Reviews statistics

TECHNICAL SKILLS

Languages: C++, Python, Go, JavaScript, Java, C, SQL, PHP, Bash, Verilog

Libraries: PyTorch, NumPy, pandas, React, Node, Express, GraphQL

Technologies: Git, Docker, Makefile, Google Cloud, AWS, Firebase, MySQL, PostgreSQL