James Wu

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EDUCATION

University of California, Los Angeles (UCLA) **Expected June 2025**

- Major: B.S. Computer Science
- Current GPA: 3.8 / 4.0, Dean's Honors List, Upsilon Pi Epsilon Honor Society
- Coursework: Artificial Intelligence, Machine Learning, Networking, Web Applications, Formal Languages/Automata Theory, Databases, Operating Systems, Programming Languages, Software Construction, Computer Architecture, Data Structures / Algorithms

EXPERIENCE

Arista Networks | Software Engineering Intern **06/2024-Present**

- Enhanced packet processing pipelines for AI platforms in the Traffic Policy / Routing team, handling over 1 billion packets / second.
- Developed and integrated a per-port control plane policing (CoPP) solution in C++ for Arista switches, dynamically identifying and filtering problematic data flows to prevent bandwidth congestion and packet loss, improving network performance and reliability
- Fixed a bug related to configuring traffic policies across multiple interfaces, boosting CLI response time from 20 minutes to 2 seconds.
- Refactored a toggle to properly handle Class of Service parameters in network packets, improving traffic management production tests.

UCLA Scalable Analytics Institute | Undergraduate Researcher **02/2024-Present**

- Evaluated GPT-4, Llama-2-7b-chat-hf, Llama-2-70b-chat-hf, and mistral-7b-instruct-v0.2 large language models on a curated textbook dataset, aiming to gauge the reasoning and comprehension abilities of models against more advanced academic subjects.
- Integrated the Anthropic API to support calls using Claude 3 Opus, allowing further model evaluations in addition to OpenAI's engine.
- Coded a Python script to clean data that consisted of over 500 textbook problems, parsing questions and rendering solutions in LaTeX.
- Created a research group website to showcase a leaderboard of various models' performance against the SciBench benchmark.

GrammaTech | Software Engineering Intern **06/2023-09/2023**

- Programmed a fullstack feature to detect dynamically linked libraries (DLL), alerting customers of potential security vulnerabilities in their applications. Feature is currently in production, used by 200+ companies across 6 industries.
- Built DLL filtering functionality by architecture, path, or platform using Angular.js and GraphQL queries to enhance user experience.
- Introduced a TypeScript service to detect window resize changes and made product dashboard responsive to increase user accessibility.
- Modified configuration code to speed up development build times by 94%, reducing refresh speed by 47 seconds for efficient testing.

Hussle | Software Engineering Intern **06/2022-09/2022**

- Coded app interface using React Native, creating multiple screens, user authentication, and a user feed exhibiting available products.
- Self-taught Tensorflow, improving accuracy of text sentiment detection by 30% in order to flag inappropriate comments for review.
- Collaborated with designers and testers to launch application on iOS store within 4 months to 15,000 UCLA students.

DevX | Software Engineering Intern **01/2022-6/2022**

- Overhauled frontend of the Sike mobile app using React Native, making actions more intuitive and accessible.
- Added gesture handling and Lottie animations, leading to 80% increase in positive user feedback.

UCLA Association of Computing Machinery, Hack | President **11/2021-03/2024**

- Managed 20 officers to maintain events and technical projects for 700+ general members, earning international recognition from ACM.
- Directed several technical workshop series teaching fullstack web development to 1000+ attendees across three years. Topics included Swift, React Native, React.js, MongoDB, Firebase, PostgreSQL, Express, and Git in addition to general related concepts.
- Led an Agile development team, coordinating 12 developers to maintain club websites with Gatsby. Established continuous integration and deployment (CI/CD) using Netlify, automating checks and previews to streamline the deployment process and ensure code quality.

PROJECTS

Pathfinder | React.js, Node.js, Express.js, MongoDB, Web Sockets (Socket.io), Amazon Web Services S3 / EC2 / Elastic Load Balancer

- Deployed Pathfinder, a platform with 300+ peak active users that enabled students to explore various careers and chat with mentors.
- Built features such as sorting articles/mentors by career interest and real-time chat using Socket.io, with 8000+ messages sent.
- Designed and deployed a docker container on an AWS EC2 instance inside a VPC with Route 53 for DNS, ensuring a 99.99% uptime.

Taigi - Taiwanese Dictionary | React Native, Node.js, Express.js, PostgreSQL

- Published app on Google Play Store that translates between Chinese, English, and Taiwanese with 5000+ downloads.
- Leveraged polymorphism for translation functionality, supporting 55,000+ phrases and traditional/simplified spellings of terms.
- Designed a search query enabling users to quickly filter through terms using Pinyin (a method to write Chinese words using English).

SKILLS

Programming: Python, C++, C, Java, JavaScript, TypeScript, SQL, Bash, HTML, CSS, Swift, Objective-C

Technologies: React.js, React Native, Angular.js, GraphQL, MySQL, MongoDB / Mongoose, Firebase, ASP.NET, Node.js, Express.js, Git / Github / Gitlab, Amazon Web Services RDS / S3 / DynamoDB / EC2 / Elastic Load Balancer / Route 53 / VPC, Next.js, Docker, Socket.io