David Liang

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EDUCATION

New York University, College of Arts and Science   **New York, NY**
Bachelor of Arts in Computer Science and Math   *May 2021*
CAS Honors Scholar, Dean's List, Proud to be First (LEAD)

Relevant Coursework: Data Structures, Large Scale Web Apps, OS, Intro to ML, AI, Linear Algebra, Applied Internet Technology
GPA: 3.609

New York University Shanghai   **Shanghai, China**
Relevant Coursework: Algorithms, Computer Architecture, Multivariable Calculus   *Spring 2019*

SKILLS

Development: Python, Java, JavaScript, TypeScript, HTML, PostgreSQL, CSS, Redis, MongoDB, MATLAB
Frameworks/Tools: Angular, Express, Django, Spring, Cucumber, Jasmine, AWS, Jenkins, Docker, Kubernetes
Languages: English (Native), Cantonese (Native), Mandarin (Conversational)

WORK EXPERIENCE

Full Stack Engineer, **Fidelity Investments**   *January 2022 – Present*

- Modernized suite of **SaaS** web trading applications by migrating legacy **JavaScript** codebases to **Angular 18**, using **Karma** for client-side unit and integration test coverage, and **Java** for backend services, enhancing performance and maintainability for over 30,000 active monthly users.
- Developed multiple **Proof-of-Concept** features across 2000 financial institutions and firms, with an initial pilot release to validate design and business requirements in real-time environments.
- Implemented a new **RESTful** order submission service, allowing users to directly send market trades, reducing latency and improving trade efficiency.
- Integrated **Adobe Analytics** to capture over user input and activity, enabling data-driven analysis that informed the redesign of UI components and streamlined the order ticket workflow for improved efficiency.
- Enabled PDF generation of trading tickets using **FTL** to support order logging and audit trails.
- Upgraded Modern and Legacy apps to **Java 17**, and wrapped legacy Java **SOAP** microservices with modern REST APIs, improving client integration and scalability.
- Automated end-to-end (**E2E**) testing pipelines using **Selenium** and **Cucumber** on trading applications, reducing manual regression testing effort and improving release confidence
- Migrated application session management to **Aerospike**, improving scalability and reliability of stateful user sessions.
- Built and deployed cloud-native applications to **AWS** using **Jenkins-based CI/CD** pipelines, implementing a blue-green deployment strategy to enable zero-downtime releases.
- Managed and published Docker images to **Artifactory**, optimizing container delivery through **AWS**-hosted infrastructure.
- Ensured **99.99%** application availability with real-time monitoring and alerting using **Datadog** and **Splunk**, improving system observability and reducing incident response time.

PROJECTS

Cook It!
- Built a reverse-search recipe application that matches ingredients to meals using **Express.js** middleware and **MongoDB** for storage.
- Integrated **Passport.js** for user authentication and **Bootstrap** for responsive UI design.
- Added support for file reading and **CORS**-enabled **REST APIs** to serve recipes in JSON format.

Photo Storage System
- Designed and developed a file storage platform using **Django** for backend/authentication and **gRPC** for communication with **Redis** storage on **Google Cloud Platform** (GCP).
- Implemented Admin support for file blacklisting using **MD5**, with a user/admin interface.

Spotify Music Quiz
- Developed an audio memory testing game that plays tracks from a user's **Spotify playlist** to enhance music recognition.
- Used **React** for the frontend, **Express.js** for the backend, and **Socket.IO** for real-time multiplayer support.