

Technical Skills

Programming Languages: Python, Java, C, TypeScript
Frameworks and Libraries: FastAPI, Node.js, React, Spring Boot
Databases: SQL, PostgreSQL, Supabase

DevOps & Dev Tools: Docker, Jenkins
Dev / Tools: Agile, Jira
Cloud Services: AWS, Azure, AWS SDK, Azure SDK

Education

Princeton University Bachelor's in Computer Science Princeton, NJ Aug. 2022 - May. 2026 • GPA:3.96

Work Experience

The Clearing House **Software Engineering Intern** Winston-Salem, NC Jun. 2025 - Aug. 2025

- Redesigned and drove the migration of an internal tool used to configure and manage participant bank information from a **.NET** application into a full-stack **Java (Spring Boot)** and **React** platform to support secure participant configuration management across a highly regulated payments network.
- Designed backend infrastructure using **Spring Boot** to manage bank onboarding, configuration data, and access controls in a high-value payments network, integrating **PostgreSQL** and **Spring Security** within systems that met **99%** availability targets.
- Built a frontend interface in **React** for managing participant configurations, using **Tailwind CSS** to improve responsiveness and maintainability.
- Configured and deployed **Spring Boot** applications on **Apache Tomcat** with **Maven**-based builds to support services used within a **\$2 trillion-plus** daily payments system while maintaining latency under **450ms**.
- Developed **RESTful APIs** using **Spring MVC** for services deployed over **HTTPS**, integrating them into **Docker**-based CI/CD pipelines, while automating deployments with **Jenkins** and managing version-controlled environments with **GitHub**.

Software Engineering Intern Jun. 2024 - Aug. 2024

- Engineered a socket-based communication layer over **TCP/IP** using **IBM MQ**, implementing coordination and failover mechanisms to synchronize service states and suppress messages sent to inactive services during startup and failover.
- Built and deployed a distributed debugging command using **IBM DB2** and a centralized service registry (**MAPS**) to display real-time payment state and routing information, reducing external dependency and achieving data access latency of **p95 < 25ms**.
- Implemented robust **command parsing** and **input validation logic** for internal tooling, enforcing correct formats for structured fields (including dates and record layouts) to prevent invalid test execution and improve reliability of diagnostic workflows.

Software Projects

LecturePilot  Feb. 2026 - Present

- Built a full-stack AI study platform using **Next.js**, **FastAPI**, **PostgreSQL**, and **pgvector** that allows students to upload lecture slides, notes, and recordings and interact with them through an **LLM-powered chat interface**, implementing a **RAG pipeline with OpenAI embeddings** for semantic search and source-grounded answers, alongside an **asynchronous ingestion pipeline** that indexes documents and auto-generates flashcards and quizzes.

Cloud Arbitrage Index  Aug. 2025 - Apr. 2026

- Developed a **Python-based multicloud system** to predict **spot instance interruption risk** across **AWS and Azure**, using the **AWS and Azure SDKs** to collect data, a **multi-armed bandit** to prioritize volatile instance pools, and **decision tree-based gradient boosting** to model risk and enable **cost-aware scheduling**.

Multicloud Orchestration Hub  Jan. 2025 - May. 2025

- Built a **VS Code** extension in **TypeScript/Node.js** for cross-cloud orchestration across **AWS (AWS SDK, STS)** and **Azure (Azure SDK)**, with a **PostgreSQL + Supabase** backend for metadata and multi-tenant scheduling, secured via **OAuth 2.0**, delivering real-time cost intelligence and one-click automation that cut multicloud overhead by **60%**, reduced idle spend, and outperformed **AWS/Azure** extensions in usability studies.

Project Leader | Signable  Jan. 2024 - Aug. 2024

- Led a **4-person team** to build and deploy a **HTML/CSS/JavaScript** e-learning ASL platform with embedded video and real-time progress tracking on a **Python (Flask)**, **PostgreSQL** backend, hosted on **AWS (EC2, S3)** with **Docker** for scalability and fault tolerance, implementing **OAuth** authentication, **RBAC**, and **Jenkins CI/CD** pipelines to strengthen security and accelerate developer iteration, serving **100+** pilot users.

Additional Activities

Inside Linebacker - Princeton Varsity Football Aug. 2022 - Nov. 2025