Umar Chaudhry

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WORK EXPERIENCE

Vail Systems   **Chicago, IL**
Software Engineer I   January 2024 – Present
- Developed a web app that leverages the FreeClimb API to let users configure automated phone call systems with call routing and text-to-speech, developed with **Next.js (with TypeScript)** and **NestJS (with TypeScript)**
- Designed and implemented backend architecture with **NestJS** and **GraphQL**, handling CRUD operations through **TypeORM** and **MS SQL**, session-based authentication, authorization through permission checks, billing through Stripe, API throttling, and OAuth integration with Square
- Led the design and delivery of enhancements to web app for automated phone call systems, enabling natural speech interaction and call transcription capabilities
- Integrated **AWS** services including **Lambda**, **DynamoDB**, **S3**, **Polly**, **Amazon Simple Notification Service**, **EventBridge**, and **X-Ray** to enhance backend reliability and scalability for automated phone call systems
- Developed an AI chatbot integrated with an automated phone call system using **Python, Redis**, and **Kafka**, allowing callers to speak naturally to complete actions such as ordering items and agreeing to SMS notifications
- Leveraged CI/CD pipelines to automate cron jobs for deleting outdated data and updating records
- Developed comprehensive test coverage: unit/integration tests (backend), **Cypress** (end-to-end), and Lambda function tests
- Deployed and managed applications using **Docker**, **Kubernetes**, **CloudBees/Jenkins**, and **GitLab**
- Collaborated between UI/UX designers, database engineers, DevOps teams, and project management to align efforts and streamline the application development process

Vail Systems   **Chicago, IL**
Web Software Engineer Intern   June 2023 – August 2023
- Rebuilt a legacy application using **React**, ensuring backend compatibility while providing new features and a modern design
- Developed new backend features in **Ruby on Rails** to support modern UI functionality
- Developed full-stack unit test coverage and **Storybook** files to document contexts for **React** components
- Gained practical experience in agile methodologies and presented deliverables to senior leadership

University of Illinois at Chicago, College of LAS   **Chicago, IL**
AI Research Assistant   August 2022 – December 2022
- Developed a **Q-Learning** algorithm in **Python** to train an AI to play Connect 4
- Collaborated in weekly meetings to refine the model and apply machine learning strategies
- Authored a research paper documenting findings; final model consistently outperformed a random model

EDUCATION

University of Illinois at Chicago   **Chicago, IL**
Bachelor of Science, Mathematics and Computer Science   December 2023
LAS Scholarship for Academic Proficiency | Dean's List 7+ Semesters | GPA: 3.97/4.0
AWS Certified Cloud Practitioner
Foundational knowledge of AWS cloud services and cloud computing   June 2025
Skills: TypeScript, React, Angular, Next.js, Node, Express, Python, Java, Spring Boot, PostgreSQL, MongoDB