Ryan Zhong

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Education

University of Maryland, College Park — Expected Graduation: May 2027

Bachelor of Science in Computer Science, Dual Degree in Finance — *GPA: 3.792/4.0*

Relevant Coursework: Organization of Programming Languages, Advanced Data Structures and Algorithms, Object-Oriented Programming I and II, Discrete Structures, Computer Systems, Differential Equations, Linear Algebra, Applied Statistics, Finance, Accounting, Economics

Experience

Backend Engineer Intern — August 2025 – Present

Sorcea Labs — *Remote*

- Incoming backend/machine learning engineer intern

Founding Software Engineer — May 2025 – July 2025

ASL Buddy — *College Park, MD*

- Led a team to deliver a full-stack translation platform with Electron serving 30 paid users, enabling real-time speech to ASL animation
- Integrated OpenAI Whisper and Gemini 1.5 Flash for transcription/translation services, cutting API operational costs by 70% with a Redis caching system and optimized prompting
- Architected WebSockets and Three.js infrastructure using FastAPI to deliver real-time ASL animations to a cross-platform Electron app with sub 200ms latency
- Reduced developer hours by 90% by creating a Python and Blender pipeline that automated 1000+ character riggings from a motion capture dataset

Projects

Stock Sentiment Dashboard | *Python, Javascript, HTML/CSS, PyTorch, HuggingFace, AWS Lambda, Athena, S3*

- Engineered a serverless pipeline using AWS Lambda, S3, and Comprehend, processing 1,000+ daily Reddit posts to a JavaScript frontend visualizing real-time stock sentiments
- Fine-tuned Hugging Face DistilBERT model on 5,000+ labeled financial posts, achieving 85% accuracy in informative vs emotional classification
- Deployed entire serverless infrastructure using Terraform, optimizing Lambda scheduling to reduce costs by 90%

Plates Card Game | *Java, Spring Boot, Socket.IO, React, Node.js, PostgreSQL, AWS EC2, RDS, S3*

- Automated deployment for the full stack to AWS EC2, RDS, S3 with a CI/CD pipeline, ensuring 99.9% uptime for over 100+ users and 200+ games
- Engineered the complete multiplayer backend in Java/Spring Boot, using WebSockets for real-time events with sub 100ms latency and secure REST APIs for complex game logic
- Designed React.js frontend with Context API state management, drag-and-drop mechanics, responsive design, and real-time synchronization with error handling

Smart Flashcards App | *Python, Next.js, TypeScript, Tailwind CSS, Flask, Firebase, Google Cloud Run, Docker*

- Developed a full-stack AI platform using a Next.js/TypeScript frontend and a serverless Node.js backend on Firestore, scaling to support 200+ users and 100+ concurrent requests
- Implemented automated document processing pipeline with PDF parsing, file upload triggers, and real-time Firestore synchronization to increase user engagement by 80%
- Containerized Google Gemini Pro 1.5 and OpenAI Whisper models with Docker and Flask API for 99.9% uptime on Google Cloud Run

Technical Skills

Languages: Java, Python, C, C++, OCaml, Rust, R, HTML/CSS, JavaScript, SQL
Frameworks/Libraries: React, Next.js, Flask, Spring Boot, Socket.IO, Tailwind CSS, Pandas, NumPy
Cloud Platforms/APIs: AWS (Lambda, EC2, S3, Athena, Bedrock, SageMaker), Firebase, Google Cloud Run
Developer Tools: Git, Github, Linux/Unix, Terraform, Docker