

Zachary Yoon-Kim

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EDUCATION

University of Michigan

Expected May 2027

B.S. in Computer Science, minor in Math

GPA: 4.0

Relevant Coursework: Object-Oriented Programming and Intro to Data Structures, Discrete Mathematics, Elementary Programming Concepts, Multivariable Calculus, Linear Algebra, Combinatorics

Involvements: Atlas Digital Consulting Group, MEG Consulting, Korean Scientists and Engineers Association

EXPERIENCE

CollegeSensei

June 2025 – Present

Software Engineer Intern

Cambridge, MA

- Engineered a live fuzzy search system for FAQ portal using Vue.js and TypeScript, enabling search using weighted scoring, tag-based filtering, and role-specific results; improved content discoverability across 8+ articles.
- Designed responsive, accessible UI with debounced input, loading animations, and real-time result previews; integrated routing for direct navigation to full articles, enhancing mobile and desktop UX and reducing user friction.
- Implemented an AI-powered essay writing assistant leveraging retrieval-augmented generation (RAG) and prompt engineering; enabled users to generate personalized drafts using context-aware college application advice.

Delta Air Lines

January 2025 – April 2025

Software Engineer Analyst

Ann Arbor, MI

- Built two-stage machine learning pipeline using Scikit-Learn and PyTorch to predict missed flight connections from schedule, gate, and real-time weather data, enabling decision time reduction of 70% compared to manual checks.
- Trained Random Forest and logistic regression models using one-hot encoded categorical inputs and engineered features to predict connection outcomes, boosting model accuracy by 15% and enabling faster gate agent decisions.
- Developed a Flask backend to process user inputs such as gate or flight number, query APIs to retrieve and parse flight and weather data, extract relevant features, and generate predictions, reducing average delays by 4 minutes.

Atlas Digital Consulting Group

February 2025 – Present

Software Engineer

Ann Arbor, MI

- Launched an internal portal to help new members track onboarding and complete recurring tasks like coffee chats and meetings, built with React on Vercel and styled with Tailwind CSS, supporting 15+ new users per semester.
- Integrated backend workflows for real-time tracking and scalable user management, leveraging Firebase authentication and data management, and Node.js for server-side logic to onboard members from database of 500+ applicants.
- Supervised and merged pull requests from 2 junior engineers, ensuring feature stability and refactoring poorly structured code, while maintaining team workflows and deployment safety with 100% code coverage testing.

Michigan Medicine – Dr. Morgan Salmon Lab

December 2024 – April 2025

Research Intern

Ann Arbor, MI

- Streamlined an end-to-end automation pipeline to preprocess and segment vascular tissue images, using Python and QuPath for image processing and Pandas to standardize raw output by converting CSV files to XLSX spreadsheets, enabling comprehensive analysis of tissue structure across experimental conditions for 5,000 high-resolution images.
- Executed and documented custom Groovy scripts to automate tissue image processing, including cell detection and region marking, reducing analysis time by 90% and eliminating user variability-based human error.

PROJECTS

Gemini-Powered Prompt Generation & Management CLI

- Created a Python CLI with Rich and Click for prompt versioning and project management, backed by FastAPI RAG system using ChromaDB and Sentence Transformers, integrated with Gemini API for context-aware prompt generation, and supported by Supabase database with JWT auth for secure multi-user access and data synchronization.

Student Organization Candidate Review System

- Spearheaded a full-stack evaluation system with a smooth slider interface for multi-criteria applicant ratings, alphabetical search, and question bank management, built with React and TypeScript; implemented secure authentication and real-time database storage using Supabase, streamlining 3,000+ applicant assessments.

ADDITIONAL

- Programming Languages:** Python, C++, JavaScript, TypeScript, HTML/CSS, SQL
- Frameworks:** React, Vue.js, Next.js, Firebase, Supabase, Tailwind, Scikit-Learn, PyTorch, Groovy
- Interests:** Marathon running, Piano, Bass Guitar, Guitar, Jigsaw Puzzles, Korean, and Dr. Pepper