

Colin Zhao

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EDUCATION

University of Pennsylvania

Bachelor of Engineering, Major in Computer Science, Minor in Economics

Philadelphia, PA

Expected May 2028

- Relevant Coursework: Linear Algebra, Data Structures and Algorithms, Introduction to Computer Systems, Programming Languages and Techniques
- 3.7/4.0 GPA

EXPERIENCE

Researcher

Penn Medicine - Radiology AI Implementation Lab

October 2025 - Present

Philadelphia, PA

- Engineered an agentic AI orchestration system using MedGemma, using a staged reasoning chain to produce high-quality structured reports, and feeding into scoring + QA module, with **98%** accuracy
- Built a tiered 3-agent LLM workflow that ingests raw text and systematically improves factuality, logic, and style through coordinated reasoning.

Software Engineer

Penn Aerial Robotics

September 2025 - Present

Philadelphia, PA

- Developed a UAV computer vision payload detection algorithm leveraging binary thresholding with **OpenCV**.
- Built an internal position representation from drone camera data with **ROS2** integration.

Founding Engineer

Collegize.ai

June 2025 - August 2025

New York, NY

- Shipped 2 MVPs and managed entire product development lifecycle, from ideation to deployment with React.js, Vercel and Supabase
- Developed LLM integration using Google's Gemini API for natural language processing, implementing document analysis, essay optimization, and personalized content generation.

Software/Data Center Build Intern

Antalpa

June 2025 - August 2025

Atlanta, GA

- Automated deployment and maintenance workflows for 630+ water-cooled GPU systems using AI agents built with **LangChain** and Python, improving configuration consistency and reducing manual setup time by 25%.
- Collaborated with engineers to configure and secure servers, firewalls, and switches, applying knowledge of TCP/IP, VLANs, and access control for reliable system integration.

Project Development Director

AiGoLearning

June 2023 - June 2024

Princeton, NJ

- Designed and deployed a **Discord bot** in **Python** utilizing REST APIs and asynchronous event handling, reducing applicant response times by **90%**.

PROJECTS

Knowledge Graph Visualizer for Wikipedia

November 2025

- Developed a Python tool that ingests a Wikipedia article, uses LLMs to extract up to key entities and relationships as a structured JSON, and visualizes the resulting knowledge graph with NetworkX + Matplotlib.

Macro Logger - Nutrition Tracking Mobile App | SQL, ReactJS/React Native

June 2025

- Developed a **full-stack mobile application** using **React Native** and **Node.js** that allows users to track daily nutrition intake using integration with the USDA Food Data Central API, with secure authentication via Clerk
- Built a RESTful API backend with **PostgreSQL** database integration, middleware rate limiting, and efficient data aggregation for nutritional summary analytics

Real-Time Gaze and Blink Tracking System | Python, OpenCV

June 2025

- Developed a computer vision system in Python using **OpenCV** and MediaPipe to track eye gaze and detect blinks in real time, including calibration and smoothing algorithms for robust performance
- Automated the collection and logging of gaze and blink data for downstream analysis, supporting research and accessibility applications

TECHNICAL SKILLS

Languages: OCaml, Java, Python, JavaScript/TypeScript, HTML/CSS, SQL,

Developer Tools: Git, SQL, Linux

Frameworks: React, Node.js, LangChain

Libraries: pandas, NumPy, Matplotlib, scikit-learn, OpenCV