

# Fuyu Qiu

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## Education

**University of Illinois Urbana-Champaign**

**B.S. in Computer Engineering Expected Graduation:** May 2029

• **GPA: 4.0/4.0**

## Experience

**Co-founder & Lead Software Engineer OpenEd | Remote / Champaign, IL | Jan 2025 – Present**

- Architected and deployed a specialized AIGC pipeline that transforms natural language into precise STEM educational videos by using LLMs to generate structured animation code rather than stochastic diffusion frames.
- Ensured 100% visual consistency and mathematical accuracy for complex scientific content, including dynamic coordinate systems, geometric proofs, and LaTeX-rendered equations, by orchestrating a Python-based visualization engine.
- Built a scalable SaaS backend on Alibaba Cloud using Docker, Redis for task queuing, and Postgres to manage the reliable execution of high-concurrency rendering jobs.
- Developed a custom orchestration layer in TypeScript to manage multi-step LLM workflows (Gemini, Claude), bridging the gap between raw AI output and production-ready visual assets.

**Software Engineering Intern (Full-Stack & Vision) Stopto-Optics | Zhenjiang, China | May 2025 – Aug 2025**

- Developed an industrial-grade analysis suite using React, Electron, and Babylon.js, creating a rich 3D spatial environment to visualize high-precision optical surface data beyond 2D limitations.
- Bridged low-level hardware communication with the Web DOM to enable real-time, low-latency feedback loops between physical optical sensors and the user interface.
- Optimized custom YOLOv11 object detection models using ONNX Runtime for high-efficiency inference on ARM-based embedded processors like Raspberry Pi.
- Implemented a robust remote Over-The-Air (OTA) update system using C#, ensuring seamless deployment and reliable version control for software running on industrial edge devices.

**Undergraduate Research Assistant Rehg Lab (Prof. Jim Rehg), UIUC | Champaign, IL | Aug 2025 – Present**

- Developing Multimodal Video Large Language Models (VLM) for Social AI applications, specifically focused on processing complex temporal video data to interpret human social behaviors.
- Architecting large-scale data pipelines and fine-tuning vision-language models to bridge the gap between raw visual features and high-level semantic behavior understanding.

**Mobile Full-Stack Developer Intern Olintech | Shanghai, China | June 2024 – Aug 2024**

- Engineered a serverless Node.js backend to orchestrate AIGC pipelines, ensuring stable API performance and low-latency delivery for an automated video synthesis application.
- Collaborated in an Agile environment to integrate Cloud Media APIs for real-time digital avatar replacement and video post-processing workflows.

## Projects

**Agentic AI & Web3 Commerce Platform ETHGlobal Hackathon | 2025**

- Built a Next.js-based backend for an autonomous commerce system that manages the entire order lifecycle, including logistics, payments, and status verification through a conversational interface.
- Implemented function calling to dynamically translate natural language prompts into executable database operations and blockchain transactions, enabling a seamless agent-to-user interaction.

**LLM-Driven Interactive System for Accessibility AI Research Project | 2024**

- Partnered with clinical psychology experts to design an inclusive educational tool for children with ASD, focusing on interactive scenarios to practice social navigation.
- Engineered an adaptive learning system featuring LLM-driven question generation, a responsive mobile frontend, and a backend analytics engine to monitor and visualize student progress metrics.

**MBTI Personality Classifier Chatbot Deep Learning & NLP Application | 2024**

- Developed an interactive application that performs multi-label text classification on WeChat chat logs using a fine-tuned BERT model to infer MBTI personality types.
- Designed a preprocessing pipeline to handle unstructured social media data, implementing custom tokenization and context extraction techniques to improve model inference accuracy.

## Skills

**Languages:** 🐍 Python, 🟡 C#, C/C++, 🍌 Swift, 🌐 JavaScript / TypeScript, 🗄 SQL (Postgres/MySQL).

**Web & DevOps:** 🌀 **React (Redux)**, Node.js, Electron, 🐳 **Docker**, CI/CD Pipelines, Git/GitHub, Cloud APIs (AWS/Alibaba).

**AI & Systems:** 🧠 PyTorch, LLMs (Fine-tuning/Agents), Computer Vision (YOLO/ONNX), Edge Computing (Raspberry Pi), x86\_64 Assembly.