Jeffrey Shen

678-557-1821 | yshenjeffrey@gmail.com | linkedin.com/in/jshen3/ | github.com/skyism | jshen.dev

EDUCATION

Carnegie Mellon University (GPA: 4.0/4.0)   Pittsburgh, PA
BS in Computer Science and Computer Engineering

EXPERIENCE

Software Engineer Intern   August 2025 - Present
EDA Clinical (Javascript, Python, Javascript, Docker, PostgreSQL, SQL, Firebase)   *Pittsburgh, PA*
- Cut **blockchain** infrastructure by **90%** by building **Docker** containerized **backend API** using **Javascript** and **Bash** scripts to wrap **Zcash CLI**, serving **3** distinct web applications.
- Designed scalable **PostgreSQL** database with **100,000+** rows, maintaining **<50ms** response time with **1000+** concurrent complex **Firebase** queries.
- Built **React** Zcash directory with **SQL** query and real-time **blockchain** verification, serving **5,000+** users.

Teaching Assistant (Data Structures and Algorithms)   June 2025 - Present
Carnegie Mellon University (C, Data Structures/Algorithms, Bash, Communication, Linux)   *Pittsburgh, PA*
- Teached weekly recitation sessions for **60+** students, breaking down complex algorithmic concepts and proofs.
- Collaborated with a **40+** TAs to maintain course software and website, maintaining consistent, professional **communication** with students, TAs, and professors.

PROJECTS/OTHER EXPERIENCES

Full-Stack College App Platform | *JS, React, Node, DevOps, MongoDB, Database*   March 2025 - Sep 2025
- Built responsive **React** UI with **JavaScript** and architected **25+** scalable **RESTful API** endpoints with **Node.js** and **Postman**, supporting **500+** daily active users with **Auth0**.
- Handle **1,000+** API calls per minute by implementing API rate limiting using **Express.js** and **caching**.
- Deployed scalable **MongoDB** server architecture achieving **<100ms** API response times and **99.9%** uptime while processing **50+** concurrent user sessions and **5,000+** complex querying operations.
- Decreased deployment time by **90%** with **95%** test coverage by establishing robust **Github Actions** and **Cron CI/CD** pipeline with automated testing, monitoring, and deployment.

Software Engineer @ Carnegie Mellon Racing | *Firmware, C, Git, Confluence, Jira*   Aug 2024 - Aug 2025
- Programmed and refactored **10,000+** lines of C code, reducing execution time by **25%**.
- Cut testing time by **90%** using flashing over **CAN**, writing **30+** pages of documentation on Confluence.

AI-Powered Gmail Agent | *Generative AI, Python, API, Data Analytics, Google Cloud*   July 2025
- Built **Object-Oriented Python** Gmail AI agent with **Google Cloud** and **Gemini** API featuring automated email labeling, processing **200+** daily emails with **95%** accuracy, reducing time spent by **2 hours** per week.

RESEARCH

CMU - AXEL Lab | *Python, Data Analysis, App Development, C, Swift*   March 2025 - Present
- Collected **1,000,000+** data points to support ML study by developing a **Python** data collection system using **Bleak**, enabling **120Hz** sensor-to-application communication.
- Collaborated on **mobile application** development to track and analyze wheelchair user movements and push patterns using **Swift**.

Predict ML Model for Mental Health | *Machine Learning, Data Labeling*   May 2023 - March 2024
- Created **Tensorflow** and **Sklearn** deep neural network using **15,000+** data points with **0.41 MSR** and **0.52**r^2.
- Engineered robust data pipeline processing **25+** categorical features using **Numpy** and **Pandas**, achieving a **95%** accuracy and published in peer-reviewed journal **JSR**.

TECHNICAL SKILLS

Languages: C/C++, Python, JavaScript, SQL, Bash, Linux, SML
Software: React, Express, HTML/CSS, RESTful APIs, Node.js, MongoDB, Git, Pytorch, Tensorflow, scikit-learn, Postman, Google Cloud, Cron, PostgreSQL, Blockchain, Docker, Google Cloud, Jira, Confluence
Core Concepts: Data Structures/Algorithms, Machine Learning, Agile, Artifical Intelligence, Object-Oriented