Jeffrey Shen

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EDUCATION

Carnegie Mellon University (GPA: 4.0/4.0) Pittsburgh, PA
BS in Computer Science and Computer Engineering *May 2028*

EXPERIENCE

Software Engineer Intern August 2025 - Present
EDA Clinical (Javascript, Python, 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 **10,000+** concurrent complex Firebase queries, enhancing user experience.
- 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*
- Taught weekly recitation sessions for **80+** students, breaking down complex algorithmic concepts and proofs.
- Collaborated with a **40+** TAs to maintain course software and website, maintaining consistent, professional communication with **500+** students, TAs, and professors.

PROJECT EXPERIENCES

Full-Stack College App Platform | *JS, React, Node, DevOps, MongoDB, Database* May 2025 - August 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.
- Designed backend to handle **1,000+** API calls per minute with 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.

HackCMU Winner | *3JS, Javascript, Supabase, 3-D Modeling* September 2025
- Collaborated with a team of 4 developers to create a gamified journaling app using 3JS, Node, and Supabase.
- Winning **1st place** out of 200+ submissions at HackCMU, demonstrating **leadership** and **teamwork** by successfully completing the project within 20 hours.

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 analyze wheelchair user movements using Swift.

Predict ML Model for Mental Health | *Machine Learning, Data Labeling* January 2024 - March 2024
- Created Tensorflow deep neural network using **15,000+** data points with **0.41 MSR** and $0.52r^2$.
- 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: Python, C/C++, JavaScript, SQL, Linux, HTML/CSS
Libraries: React, Express, Node.js, Pytorch, Tensorflow, Cron, PostgreSQL, Pandas, Numpy
Developer Tools: GitHub, REST APIs, Docker, MongoDB, PostgreSQL, Google Cloud, AWS, Postman, Jira