Keisuke Maeda

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Experience

Software Engineer
Internship, Tactical Affairs, Bellevue, WA *April - September 2025*

Built a RESTful backend API managing up to one hundred DMX512 lighting fixtures per facility. The service supported our main immersive simulation product by providing a stable interface for real-time lighting and device control. The API achieved sub-50-millisecond response times under load.

- Introduced a configuration-driven system where devices and actions could be defined through external files and loaded at runtime. This allowed facilities to adapt lighting setups or trigger sequences without modifying source code, turning the API into a programmable interface tailored to each site's equipment and layout.
- Authored and maintained detailed API documentation covering endpoints, parameters, and example payloads to standardize how the frontend team interacted with the system. This manual documentation effort reduced integration errors and established a consistent model for future development.

Designed and deployed a retrieval-augmented generation system providing conversational access to company documents.

- Built a Python backend with FastAPI and a Pinecone vector store, deployed on Vercel, and automated document ingestion through n8n workflows.
- Engineered the data pipeline and prompts for Agents to produce contextually accurate and human-readable responses.

Mathematics Tutor
Grade Potential Tutoring, Redmond, WA *October 2023 - February 2025*
Self-Employed, Redmond, WA *March 2025 - Present*

Tutored high-school students in mathematics through a Socratic approach, guiding them to uncover principles rather than memorize formulas. Asked probing questions and deliberately resisted giving quick answers, helping students build reasoning habits and confidence in problem-solving.

Education

B.S. in Computer Science and Software Engineering **GPA: 3.5**
University of Washington, Bothell, WA *Expected Graduation: June 2026*

Relevant Courses: Data Structures and Algorithms, Object Oriented Programming,Operating Systems, Hardware and Computer Organizations, Database Systems, Web Programming, Cybersecurity and Network Systems

B.S. in Mathematics **GPA: 3.9**
University of Washington, Bothell, WA *Expected Graduation: June 2026*

Relevant Courses: Real Analysis, Numerical Analysis, Statistics, Linear Algebra, Differential and Multivariable Calculus

Projects

Phoneme Sequence Identification with Custom LSTM based Neural Network

Developed an LSTM-based neural network to predict ARPABET phoneme sequences from English word spellings. Trained on the 134,000-word CMU Pronouncing Dictionary and achieved 98% phoneme-level accuracy on unseen words, demonstrating generalization to untrained vocabulary.