

# Lam Pham

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## EDUCATION

### University of Washington - Seattle

Expected Graduation: June 2027

Bachelor of Science, Computer Science

GPA: 3.74

- **Relevant Coursework:** Deep learning, Algorithms, Database Management, Data Structures & Parallelism, Hardware/Software Interface, Distributed Systems, Artificial Intelligence, System Design, Computer Security

## EXPERIENCE

### Software Development Engineer Intern

June 2025 – Sept. 2025

Amazon Web Services (AWS) – CloudFront

Seattle, WA

- Improved availability monitoring coverage by **45%** across **300+** AWS edge locations by building an **end-to-end** monitoring system that identified hidden availability issues using **Java** and CloudWatch anomaly detection models.
- Reduced operator incident resolution time by **60%** by designing and implementing hierarchical alarms with built-in root cause analysis and clear runbooks, enabling faster issue remediation and minimizing customer impact.
- Leveraged **AWS CDK** to build an automated **CI/CD pipeline**, deploying **1,000+** monitoring dashboards, eliminating manual overhead and enabling scalable rollout of future observability tools.

### Undergraduate Research Intern | Data Sonification Toolkit

Jan. 2025 – June 2025

University of Washington, Interactive Data Lab (IDL)

Seattle, WA

- Developed a queuing system in **TypeScript** for an **open-source** data sonification library by designing specifications for sequencing text, audio, and scale mappings, enabling flexible creation of data-driven narratives.
- Implemented **unit/integration tests** and detailed **API documentation**, enhancing system reliability and supporting future development and external library integration.
- Designed and implemented a **Svelte-based** toolkit with **D3.js** visualizations for accessible data sonification, streamlining workflow for researchers through an intuitive block-based interface and real-time audio feedback.

### Full-Stack Software Development Intern | members.veym.net veym.net

March 2024 – Present

Vietnamese Eucharistic Youth Movement

Seattle, WA

- Increased support efficiency by **40%** for **5,000+** users by designing and implementing **RESTful APIs**, complex relational database schemas, and optimized SQL queries to support secure authentication, automated notifications, and advanced search/filter tools, using **C# .NET Core** and **TypeScript**.
- Developed a caching system by scripting automated cache population and created new routes and schemas for JSON responses, resolving over **10 critical bugs** and enhanced system performance and reliability.
- Collaborated in bi-weekly **Agile** sprints, contributing to the rapid iteration of product features and improvements, and collaborated closely with cross-functional teams to align development efforts with strategic objectives.

## PROJECTS

### Dr Wifi (T-Mobile, Dubhacks 2025 – 2nd Place) | *Python, CrewAI, Flask, React, Ollama*

Oct. 2025

- Built event-driven network assistant with **AI agent workflow** that achieves **90%** diagnostic accuracy, automatically monitors network health, triggers diagnostics upon degradation, and generates actionable solutions.
- Deployed an **SLM** on Raspberry Pi edge device for local **AI inference**, analyzing **TCP/IP** performance metrics (latency, packet loss, WiFi RSSI) in under **30 seconds** with 0 cloud dependencies and offline functionality.

### CalPal.ai | *Next.js, Vercel AI SDK, Convex, Google Calendar API, Claude*

Oct. 2025 – Dec. 2025

- Built AI calendar assistant with **agentic workflow** using **7 function-calling tools** that schedules events, finds optimal meeting times across multiple calendars, and coordinates group availability through natural language.
- Implemented **prompt engineering** with context injection and **persistent memory** via **Convex** for stateful multi-turn reasoning, leveraged **Vercel AI SDK** for streaming responses and autonomous **tool orchestration**.

## TECHNICAL SKILLS

**Languages:** Java, C, C++, C# .NET Core, Go, Python, SQL, JavaScript, TypeScript, Ruby, HTML/CSS

**Frameworks:** React, Next.js, Node.js, Svelte, Flask, Django, Streamlit, Rails, React Native

**Libraries:** NumPy, pandas, Matplotlib, PyTorch, TensorFlow, Keras, Redux

**Other Technologies:** Git, Postman, Docker, Kubernetes, AWS (CloudWatch, CDK), Azure DevOps, MongoDB