Andrew Q. Nguyen

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EDUCATION

Northeastern University Seattle, Washington
***M.S.** in Computer Science – (DSA, Distributed Systems, Statistics, OOP, ML, Operating Systems).* *Expected Graduation, Dec 2026*

University of California San Diego San Diego, California
***B.S.** in Biochemistry and Cell Biology* *Graduated, March 2020*

SKILLS

Programming Languages / Web Tech: Python (proficient), Java (proficient), C++ (familiar), SQL, HTML, JavaScript, R, React, RESTful APIs
Specialized Tools: Pandas, NumPy, Scikit-learn, TensorFlow, PyTorch, XGBoost, Clustering, sBERT, Large Language Models (LLM), OpenAI Whisper, Quantization, NPU acceleration, Ollama, Power BI, Splunk, Wireshark, MySQL, Z3 Solver, Unit test, Git, TDD
DevOps / Databases: Git, Docker, Kubernetes, Jenkins, CI/CD, Bash, VMs, TCP/IP, MongoDB, AWS DynamoDB, AWS Lambda

WORK EXPERIENCES

Vigitron Inc. Innovative Networking Solutions San Diego, California
Network Engineer *June 2021 – June 2024*

- **Reduced** manual testing by **20%** by automating security testing frameworks, integrating **Splunk** and **Wireshark** for log analysis.
- **Achieved** a **15%** improvement in pre-emptive issue detection by implementing machine learning models using **Scikit-learn** on **Virtual Machines (VMs)** to predict potential network vulnerabilities.
- **Enhanced** QA testing and network maintenance effectiveness by applying knowledge of computer systems hardware, PoE, switches, midspan/coax/UTP devices, and **TCP/IP** protocols.

Dr. Alex Yao, San Diego State University San Diego, California
Data Intern *Dec 2023 – June 2024*

- **Improved** model accuracy by **12%** by focusing on feature selection and hyperparameter tuning in a product recommendation system using **PyTorch** and e-commerce data stored in **MongoDB**.
- **Enhanced** system scalability by cloud deployment of machine learning models using **AWS Lambda, DynamoDB** and **Kubernetes**.
- Ensured releases with minimal errors by setting up **CI/CD** pipelines with **Jenkins** and **Docker** for scalable deployment of models.

Gleeson Lab, University of California San Diego San Diego, California
Machine Learning Researcher *Jan 2019 – Jan 2021*

- **Streamlined** bioinformatics data processing by **50%** by developing scripts in **Bash, C++** and **SQL** on the UCSD Computing Cluster.
- **Supported** data analysis and decision-making by creating interactive data dashboards using **React**, **JavaScript**, and **Power BI**.
- **Maintained** code quality and reduced bugs by **20%** by integrating **unit tests** into a **Test-Driven Development (TDD)** framework, leveraging Git for version control, and actively participating in thorough code reviews.

SELECTED PROJECTS

ConquestFour - Qualcomm & Microsoft On-Device AI Hackathon (Python) Seattle, Washington
Team of 5 Co-Lead Developer *March 2025*

- **Won Second Place out of 28 Teams** creating a **local LLM**-powered Connect Four game using **Mistral-7B (4-bit quantized**).
- **Implemented** Minimax algorithm with Alpha-Beta pruning and **Z3 state validation**, integrated with speech-to-text capabilities using **OpenAI Whisper** Increasing overall player-AI interaction by **75%**.
- **Optimized** performance with **NPU-accelerated** animation reducing game overall processing delay by **60%**.

Semantic Sounds – A Personalized Recommender (Python) Seattle, Washington
Team of 3 Lead Developer *Dec 2024*

- **Designed** a semantic meaning music recommender system with improved relevancy and **HDBSCAN clustering** effectiveness (Silhouette score: **0.7464**) from base recommender using SHAP-selected features and **sBERT** embeddings.
- **Enhanced** users' satisfaction by **50%** integrating audio and lyrics to recommend songs based on "mood" and "semantic meaning".
- **Preprocessed** 60000 Spotify entries achieving regression models' accuracies of **>.5** to identify features influencing song popularity.

MaestroMotion - Gesture Based Music Notation System (Java) Seattle, Washington
Developer and Lead *Nov 2024*

- **Improved** system scalability and efficiency by optimizing a music system using **OOP principles** and advanced GUI development.
- **Achieved 90%** gesture recognition accuracy by leveraging bounding boxes, subsampling, and coordinate transforms.
- **Improved** code modularity by **50%** through **r**efactoring, serialization, abstractions, and creating reusable components.

CERTIFICATIONS AND ACTIVITIES

Certifications Online
Google Cyber Security Certificate (Linux, MySQL, and Python hands-on labs) *Completed Nov 2024*
Azure Fundamentals *Completed April 2025*

Selected for Graduate Leadership Institute at Northeastern (GLI) | *Leadership Development* | *Dec 2024* Seattle, Washington

- **Cultivated** leadership competencies through interactive sessions and feedback resulting in 40% improvement in teamwork metrics.