Andrew Q. Nguyen

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SUMMARY/OBJECTIVE

Graduate CS student with 3+ years of experience in applied machine learning, cloud infrastructure, and secure systems engineering. Skilled in building ML pipelines with PyTorch and Scikit-learn, deploying with AWS, Docker, and analyzing real-time data using Splunk and Wireshark. Passionate about solving complex problems through scalable, intelligent systems.

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), Bash, SQL, HTML, JavaScript, RESTful APIs
Networking & Specialized Tools: OSI Model (L1-L3), TCP/IP, VLANs, DHCP, OSPF/BGP (familiar), ACLs, Splunk, Wireshark, NetFlow, Firewall rules, Pandas, Scikit-learn, PyTorch, Clustering, Large Language Models (LLM), Power BI, MySQL, Z3 Solver, Unit test, Git, TDD
DevOps / Databases: Git, Docker, Kubernetes, Jenkins, CI/CD, VMs, TCP/IP, MongoDB, AWS Lambda, AWS DynamoDB Postgres, Redis

WORK EXPERIENCES

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

- **Reduced** manual testing by **20%** by automating **L2/L3** network security validation pipelines, integrating **Splunk**, **Wireshark,** and **NetFlow** for real time log analysis and anomaly detection.
- **Achieved** a **15%** improvement in pre-emptive issue detection by **developing** Python and Bash scripts using **Scikit-learn** to analyze system metrics on **virtual machine (VM)** infrastructure and predict network vulnerabilities.
- **Maintained** company networking systems and **enhanced** QA testing by supporting PoE, switches, VLANs, midspan/coax/UTP infrastructure, while **conducting** Tier-2 diagnostics across L2/L3 protocols including **TCP/IP**, **DHCP**, and **ACLs**.

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 deploying machine learning models using **AWS Lambda** and **Kubernetes**, integrating with relational database **Postgres** and leveraging in-memory caching with **Redis** to optimize data retrieval and performance.
- 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.

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.