Toan Pham

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EDUCATION

NC State University   Raleigh, NC
B.S. Computer Science   *August 2020 – May 2024*

WORK EXPERIENCE

Lead Software Engineer – Project Boracle   Jan 2024 – Present
CSUN-NASA Arcs Lab   *Raleigh, NC*
- Manage a team of 10 software engineering students with the California State University of Northridge (CSUN) in partnership with NASA to conduct convergence research and build autonomous systems.
- Create Jira tickets to translate strategic objectives into actionable technical tasks to enable research goals.
- Developed a NoSQL database for wearable health devices using Firebase and PostgreSQL with over 300 sub-collections and documents to collect data for intelligent analysis.
- Authored 23 identity and access management (IAM) permissions for the diet and nutrition tracking application.
- Researched the metadata of different health tracking devices including Sensoria smart socks and Apple Watches to determine data upload speeds, measurement accuracy, and metrics tracked.
- Wrote unit and Behavior Driven Development (BDD) tests for a Spring Boot application through JUnit and Mockito.

Software Engineer – Autonomy in Law   May 2022 – Jan 2024
CSUN-NASA Arcs Lab   *Raleigh, NC*
- Extract information from 1,800 cases in the MOCO crypto litigation database using AI (Artificial Intelligence)-NLP(Natural Language Processing) techniques with Python's spaCy library.
- Train a custom model across 2 billion words using Amazon SageMaker to identify significant legal terms in cryptography litigation cases with a confidence score of 0.89
- Built a custom pandas Python web scraping script to analyze 30,000 SSRN research papers within 35 minutes.

Vietnamese Tutor   Aug 2021 – Dec 2023
Vietnamese Student Association   *Raleigh, NC*
- Developed a Vietnamese learning curriculum and lessons to 100 peers designed for introductory levels.
- Collaborated with the Vietnamese Student Association (VSA) board to create weekly meetings and host events.

PROJECTS

AWS 3-Tier Architecture Workshop | *Java/Node.js/SQL*   Nov 2024 – Jan 2025
- Utilize CloudFront, EC2 Instances, Amazon RDS for postgreSQL, Auto Scaling Groups, and a load balancer to develop a presentation, application and database layer.
- Test fault tolerance, security, and availability through AWS IAM and AWS Web Application Firewall (WAF).

Online Coffee Ordering Application | *Java/C/C++/Python/JS/MySQL*   June 2024 – Dec 2024
- Developed a full-stack coffee ordering application leading the implementation of user authentication to reduce login errors by 40% through error handling and input validation.
- Designed a MySQL database schema with 12+ tables to manage order processing and reduce query response time from 2100ms to 500ms through proper indexing.
- Built RESTful API endpoints to handle communication between front-end and backend for real-time inventory management.

BOTS Games To Learn - Game Development | *C#/Unity*   April 2024 – Nov 2024
- Overhauled the front-end for logging in, gameplay type selection, level selection, and settings using C#.

Datafest – Hackathon | *Python*   Sep 2022 – May 2023
- Designed an algorithm through Python to parse through 2 million rows and columns to draw meaningful insights.
- Won Best in Data Communication out of 15 teams.

SKILLS

Languages: Java, Python, C/C++, C#, JavaScript.
Frameworks: React, Node.js, JUnit, WebGL, SpaCy, SpringBoot.
Developer Tools: SQL, Git, Amazon Web Services (AWS), PyTorch, Jupyter Notebooks, Firebase, pandas, NumPy, Jira, Ubuntu/WSL, Matplotlib, Unity, Unreal Engine, SFML.