Stephen Usselman

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Skills

Programming Languages: C++, Python, Java, PHP, JavaScript
Machine Learning & Data: scikit-learn, pandas, matplotlib
Tools & Frameworks: SQL (MySQL, SQLite), Git, Laravel, Gradle, Jira

Academic & Project Experience

Tsunami Prediction Model
Machine Learning Project 2025

- Built a binary classification model using a tuned HistGradientBoostingClassifier to predict tsunami occurrence from seismic data
- Trained and evaluated the model on 782 earthquake events, incorporating magnitude (Richter), focal depth, CDI, MMI, and geographic coordinates
- Performed feature engineering and validation using historical earthquake and tsunami datasets spanning 2001–2022
- Implemented data analysis and visualization workflows using scikit-learn, pandas, and matplotlib

Operating Systems & Concurrency Projects (Java)
Systems Programming Coursework 2025

- Implemented a Producer–Consumer multiprocessing system using Java threads, synchronization primitives, and a shared buffer
- Conducted 18 experimental runs varying producer and consumer thread counts (2, 5, 10), buffer sizes (3, 10), and execution configurations
- Designed and evaluated Virtual Memory Management simulations comparing FIFO, LRU, MRU, and Optimal replacement algorithms
- Tested memory behavior across page sizes (512, 1024, 2048 bytes) and frame counts (4, 8, 12) to analyze performance tradeoffs

Itiner-Ease
Full-Stack Collaborative Web Application 2025

- Contributed to the design and development of an AI-powered itinerary generation platform using the Laravel TALL stack
- Implemented CSV-based data ingestion and normalization pipelines for location and activity datasets
- Integrated OpenAI APIs to generate personalized travel itineraries based on user preferences
- Collaborated in a team environment to coordinate features, manage tasks, and maintain application functionality

Education

Bachelor of Science in Computer Science
Old Dominion University Graduated: Fall 2025

Relevant Coursework:
Object-Oriented Programming and Design; Principles of Programming Languages;
Database Concepts; Introduction to Machine Learning; Operating Systems;
Computational Methods and Software; Professional Workforce Development