Denis Fuentes

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EDUCATION

University of Houston, Houston, TX

Bachelor of Science, Computer Science **Expected Fall 2025**

Major GPA: 3.0

Relevant Coursework: Database Systems (SQL), Computer Networks, Data Structures & Algorithms, Fundamentals of Artificial Intelligence, Operating Systems, Software

SKILLS

- **Programming:** C++, Python, C#, JavaScript - Familiar with Swift, Java, Go, Verilog, and TypeScript through coursework
- **Machine Learning & AI:** PyTorch (Deep Neural Networks, LSTM/RNNs), Data Preprocessing & Feature Engineering, Model Evaluation
- **Software:** POSIX Threads, Sockets API, PyShark, Wireshark, SQL, JSON
- **Concepts**: Data Analytics, OOP, Algorithms, Network Protocol Analysis, Data Structures
- **Languages:** English (fluent), Spanish (fluent)

WORK EXPERIENCE

Compudopt January 2023 – Current

Trainer

- Taught 150+ students foundational skills in C++, Python, and problem-solving through project-based learning
- Collaborated in a team of 40+ to develop and refine coding curricula
- Strengthened communication by explaining complex code and logic in clear, concise English, helping diverse learners grasp core concepts.

PROJECT EXPERIENCE

Stock Market Prediction ML Model (PyTorch) **March 2025**

- Developed a PyTorch LSTM for stock price prediction, acquired and cleaned historical NASDAQ data with yfinance, and collaborated on Git/GitHub for version control.
- Addressed overfitting via early stopping and dropout, tuned hyperparameters (learning rate, hidden layers), and achieved high validation accuracy using advanced ML techniques.
- Compared architectures (feed-forward vs. LSTM), documented training loss/R-squared metrics, and presented findings in a final report analyzing overfitting risks, computational complexity, and overall performance.

IP Address Pinning and Monitoring Tool (Python) November 2024 - November 2024

- Designed a Python tool for real-time network diagnostics and IP monitoring
- Applied Python's robust libraries for error handling, logging, and efficient network performance analysis
- Strengthened skills in scripting and network protocols

Maze Generator (C++) May 2024 - May 2024

- Developed a dynamic maze generator and solver using graph traversal and Dijkstra's algorithm.
- Implemented object-oriented design principles and optimized algorithms for performance.
- Collaborated with a teammate to implement features using Git for version control, enhancing teamwork and code integration.
- Demonstrated proficiency in C++ with memory management and efficient data structures.

Network Client-Server Program (C++) December 2024

- Developed a client-server model for interprocess communication using UNIX sockets.
- Utilized multithreading for the client to handle multiple connections efficiently.
- Enhanced server performance by managing concurrent requests using child processes.