Wadih Pazos

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EDUCATION

Carnegie Mellon University May 2025
BS Computer Science | Machine Learning Concentration
Selected Coursework: Deep Reinforcement Learning, Parallel Computer Architecture and Programming, Algorithm Design and Analysis, Machine Learning, Computer Systems, Parallel and Sequential Data Structures and Algorithms, Functional Programming, Probability Theory, Vectors and Matrices.

SKILLS

Programming Languages: (Python, JavaScript, C, SML, C#, HTML/CSS, x86-64 Assembly)

Technologies: (NumPy, Tensorflow, PyTorch, Matplotlib, SciPy, Node.js, React.js, SQL, MongoDB, Git, Docker, AWS)

WORK EXPERIENCE

Advanced Optronics May 2023 – Aug 2023 | Pittsburgh, PA
Software Engineer Intern
- Engineered UI using React.js and Babylon.js to visualize 3D cochlear implant surgery simulations and real-time strain data from MEMS sensors, optimizing surgical precision.
- Created AWS python scripts to generate hdf5 datasets with 1M+ data points from simulation data, supporting ML model training.
- Constructed, trained, and tested feed-forward neural network in TensorFlow achieving 98% accuracy, predicting electrode position, max force, and cumulative force from strain sensor data, revolutionizing the way surgeons can visualize and anticipate electrode placement during procedures.

the402 (YC '22 Startup) May 2022 – Aug 2022 | Miami, FL
Software Engineer Intern
- Worked on a Web 3.0 content streaming app interacting with the Ethereum blockchain.
- Built smart contracts in Solidity encapsulating logic for publishing, minting, and transacting NFTs.
- Developed browser-based user experience with React.js and Node.js and the iOS native experience with React Native.
- Identified a need for, designed, and implemented the live streaming capability, leading to greater platform adoption.

PairSoft May 2021 – Aug 2021 | Miami, FL
Software Engineer Intern
- Improved optical character recognition module by implementing a new fuzzy matching algorithm leveraging the Elastic Search document database and search API.
- Implemented backend REST API using C#/.NET Core, which interacted with Google Tesseract and Elastic Search.
- Increased accuracy and fitness of PairSofts's OCR service leading to higher adoption and consumption.

PROJECTS

Multithreaded Web Proxy Apr 2023
- Developed a concurrent HTTP caching web proxy in C that logs requests, and deals with multiple clients concurrently with threads.
- Implemented caching using a main memory cache with LRU eviction policy to store recently accessed web content. Mitigated race conditions through mutual exclusion and thread synchronization.

Dynamic Memory Allocator Mar 2023
- Built a high performance dynamic memory allocator in C, writing the malloc, free, realloc, and calloc functions.
- Achieved an average utilization of 74.6% and throughput of 11,040 Kops/sec, with a segregated free list implementation for memory blocks, better fit algorithm and footer-less blocks for reduction of internal/external fragmentation.

Nighthawk Feb 2022
- Built a python bot leveraging the FTX.com public API to analyze market data and identify profitable trades for cryptocurrency options by identifying put-call parity violations and pricing discrepancies, generating an 11.5% annualized ROI.

Live Like Bella Foundation - Gala Fundraising Application Sep 2021
- Developed a fundraising web application with React.js, Express.js, and MongoDB.
- Processed donations while updating an onscreen thermometer displaying the amount raised in real-time.
- Used during the "live ask" portion of the gala where it supported a record-breaking raise of $160,000.