Mario Daniel **Panuco**

GRADUATE STUDENT, APPLIED MATHEMATICS

San Jose, CA; Santa Cruz, CA

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Education

University of California, Santa Cruz
Santa Cruz, CA
MSc., APPLIED MATHEMATICS
Sep. 2023 - May 2024

University of California, Santa Cruz
Santa Cruz, CA
BSc., COMPUTER SCIENCE ENGINEERING, GPA: 3.63
Sep. 2021 - Sep. 2023
- Relevant courses:
  Algorithms: Data Structures, Algorithm Analysis, Modern Algorithmic Toolkit;
  Computer Systems: Computer Architecture, Functional Programming, Systems Design;
  Mathematics: Linear Algebra, Mathematical Methods For Engineers, Artificial Intelligence, Computational Methods and Applications

DeAnza Community College
Cupertino, CA
TRANSFER GPA: 3.90
Sep. 2019 - May 2021
- Dean's Honour List: F19, W20, F20, W21, S21
- Relevant courses: Calculus, Discrete Math, Data Structures and Algorithms, Java, C++

Work Experience

Baskin Engineering, University of California, Santa Cruz
Santa Cruz, CA
GRADER/READER FOR CSE 140 - ARTIFICIAL INTELLIGENCE
April 2023 - June 2023
- Assessed and provided constructive feedback on student examinations, focusing on their understanding and application of core AI principles: Constraint Satisfaction Problems, Adversarial Search, Markov Decision Processes, and Reinforcement Learning, Knowledge Representation, Bayesian Networks, and Machine Learning
- Worked closely with faculty to discuss and resolve any discrepancies in grading, upholding fairness and accuracy

LSS at University of California, Santa Cruz
Santa Cruz, CA
SUPPLEMENTAL INSTRUCTION LEADER - CSE 20 - INTRODUCTION TO PYTHON
Jan. 2023 - March. 2023
- Provided students with supplemental instruction/material for Python in the form of in-person instruction & Jupyter Notebooks
- Helped diagnose and guide student's debugging strategies
- Helped students recognize design patterns applicable to CSE 20 like: both linear/binary recursion, sorting, and OOP

LSS at University of California, Santa Cruz
Santa Cruz, CA
SMALL GROUP TUTOR - CSE 102 - INTRODUCTION TO ALGORITHM ANALYSIS
Aug. 2022 - Dec. 2022
- Facilitated a peer-centered learning environment for students
- Assisted students in developing skills to meta-cognitively recognize design patterns to algorithmic problems as well as in developing skills to formally communicate mathematical abstractions
- Provided insight to applying algorithmic thinking, optimizing for time and space complexity, to tackle algorithmic problems

Projects

PlankAI - Rust
INDEPENDENT PROJECT
July. 2022 - Present
- Utilized knowledge of Statistics, AI, and Scientific Computing to design a computational model simulating interactions between agents and their environment
- Constructed the codebase using Rust packages such as nalgebra, rand_chacha, serde, and wasm_bindgen
- Employed a test-driven approach for the development of the Neural Network and Genetic Algorithm modules

Toys.R.ust.Server - Rust
INDEPENDENT PROJECT
July. 2022 - Present
- Used asynchronous runtime libraries such as Axum, WASM-bindgen, and tower_http to construct a robust web server
- Facilitated deployment using a Virtual Machine instance via Google Cloud Platform
- Implemented robust error handling and logging mechanisms to ensure smooth server operations

CLI Countdown Timer - Rust
INDEPENDENT PROJECT
Jun. 2022
- Developed a precise countdown timer with nanosecond accuracy
- Leveraged commonly used Rust packages for CLI tools, including termdown for terminal manipulation and clap for argument parsing

Video Game Store (Triforce Games) - Java
DATA STRUCTURES AND ALGORITHMS FINAL PROJECT, CIS 22C
2021
- Engineered various data structures throughout the quarter to be used for the final project. Including List, BST, Min-Heap, and Hash-Table
- Conceptualized and implemented demo databases along with CLI interfaces for demo customers and employees
- Directed and managed project synchronization and version control within a team of five
- Implemented a comprehensive testing suite to ensure correctness of data structures and algorithms

Honors & Awards

| 2021 | **Recipient**, UCSC Campus Merit Hihn Scholar | *Santa Cruz, CA* |

Skills

Programming Languages Python, Bash, Rust, C, Julia, MATLAB, LaTeX, Java, RISC-V Assembly

	Language	Frameworks
Frameworks	Python	Pytorch, Numpy, Polars, Pandas, SciPy, Ski-kit Learn, FastAPI, Seaborn
	Rust	Axum, Tokio, Clap, Tower-HTTP, Tracing, Serde, Polars, TUI, WASM_Build
	Julia	Statistics, Linear Algebra, SparseArrays, Bio

Operating Systems Unix: Linux (Ubuntu/Debian) and MacOS; Windows 10

Applications Pycharm, CLion, MATLAB

Tools GIT, Markdown, Shell Scripting, Anaconda, Docker, Google Cloud Platform

Languages: English, Spanish, French