Jorge Emanuel Nuñez

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Education

University of California, Berkeley | Berkeley, CA — May 2024

- B.S. in Electrical Engineering and Computer Sciences

Relevant Coursework:

Data Structures, Database Systems, Operating Systems, Computer Architecture, Artificial Intelligence, Algorithms, Principles and Techniques of Data Science

Experience

Qualcomm | San Diego — May 2023 - Aug. 2023

Software Engineering Intern

- Conducted in-depth analysis of software systems, identifying inefficiencies and proposing optimization strategies, resulting in an improvement in code execution efficiency for the Qualcomm Oryon CPU project.
- Assisted in the refinement of software development processes by actively participating in code reviews, debugging sessions, and providing valuable feedback, contributing to a more streamlined and error-resistant development pipeline.

Algorithms & Computing For Education Lab | UC Berkeley — Feb. 2021 - May 2024

Research and Development Assistant

- Led the research and development of a Python-based cheat-detection system, focusing on algorithmic innovation and efficiency for detecting suspicious behaviors in assessments.
- Integrated the system with the PrairieLearn platform, ensuring smooth interaction between the detection algorithms and the platform's backend infrastructure.
- Collaborated on the design of auto-grading features, automating the evaluation process for over 200 students, and enhancing the platform's educational tools for scalability and robustness.
- Conducted performance analysis and optimization of detection algorithms to minimize false positives and ensure accurate real-time cheat detection.

Projects

Cheat-Detection System & PrairieLearn Integration

Algorithms & Computing for Education Lab | *UC Berkeley* — Feb. 2021 - May 2024

- Designed and built front-end tools in JavaScript for educators, providing a user-friendly interface to monitor flagged cheating behaviors, generate detailed reports, and interact with real-time data.
- Implemented the backend integration of Python-based detection algorithms with PrairieLearn's database, ensuring real-time data retrieval and synchronization between the detection system and educational assessments.
- Focused on improving the usability and visualization of the system by creating dashboards that allowed educators to review suspicious patterns and student performance data easily.

Pinto's Operating System

CS162: Operating Systems | *UC Berkeley* — Fall 2023

- Implemented user program support, system call interface, priority thread scheduling, and cached file system in C of the Pintos Operating System in a team of 4.

Database Project

CS 186: Database systems | *UC Berkeley* — Spring 2022

- Implemented a relational database system in Java that supports concurrency, and recovery.
- Created a B+ Tree class that handled indexing of each record by storing references to records.

Activities

Participant, Google Computer Science Research Mentorship Program (CSRMP) — Sep. 2021 - Dec. 2022

- Selected for a prestigious mentorship program aimed at advancing research skills in computer science.
- Collaborated with Google engineers and researchers on a project focused on computer science education.

Skills

- Languages: Python, Java, C/C++, SQL, OCaml, HTML, JavaScript, TypeScript, EJS
- Frameworks & Libraries: Django, React, Node.js, Pandas
- Tools & Platforms: AWS, Docker, GitHub, Jira, PrairieLearn
- Technologies: Automation Testing, UI Development, Open-Source Development, Data Structures, Algorithms