Matthew C. Smith

EDUCATION

CSU Northridge **Northridge, CA** **Fall 2022 – Present**

- **Major:** Computer Science, B.S. with Minor in Mathematics (CSUN GPA: 4.0)
- **CS Coursework:** Automata, Programming Languages, Software Engineering, Web Engineering, HCI
- **Mathematics Coursework:** Foundations of Higher Mathematics, Probability, Numerical Analysis
- **Associations:** ARCS Associate, ACM (Treasurer – 2023-2024), NSLS Honor Society

College of the Canyons **Valencia, CA** **Fall 2017 – Spring 2022**

- **Majors:** Computer Science, A.S.-T (in-major GPA: 4.0) – Mathematics A.S.
- **CS Coursework:** Architecture & Assembly, Algorithms & Data Structures, Java/C/C++ Programming
- **Mathematics Coursework:** Calculus I, Calculus II, Calculus III, Linear Algebra

EMPLOYMENT

Student Researcher **CSU Northridge** **June 2023 – Present**

NSF REU Participant (Summer) – Student Research Assistant (Present)

- Use cloud-computing simulators to model datacenters running GPU-intensive applications.
- Created a workload balancing algorithm that reduced energy consumption in datacenters by up to 13%.
- Debug and contribute to open source projects, optimize experiments, and automate data collection.
- Lead writer of two research papers that have been accepted for publication.

Software Developer **Independent Contractor** **August 2017 – June 2020**

- Developed fast, configurable Minecraft mods for servers with up to 1,000 concurrent players.
- Frequently used SQL, public/private API integration, multi-threading, and dependency management.
- Wrote requirements documentation, used test-driven CI/CD environments, and managed bug trackers.
- Projects include: minigames, MMORPG-style item and skill progression systems, and API development.

PROJECTS

Proteus **ARCS Research Center** **September 2023 – Present**

- A programming language natively supporting HSMs, designed for use in actor-based, event-driven systems.
- Migrating test suite from C++ to Swift, adding new test cases, and fixing compiler bugs.
- Transpiling Proteus to C: implement HSMs in the QPC library.

Boracle **ARCS Research Center** **January 2023 – Present**

- Leading subteam for Boracle Marketplace – a ReactJS webapp for smart devices and health-focused apps.
- Smart-device market research; storyboard, use case and user requirements development; UI design.
- Processed data using qualitative coding in Excel, created visualizations with the Google Charts API.

Spy Game **August – December 2022**

- Spy Game project lead: a mobile app location-based elimination game, written in Kotlin and Java.
- Implemented an authentication framework (SRP-6) for encrypted login sessions and server communication.
- Setup server infrastructure, created database schema, software interfaces and project documentation.

PUBLICATIONS

1. M. Smith, L. Zhao, J. Cordova, X. Jiang, and M. Ebrahimi, "Energy- efficient gpu-intensive workload scheduling for data centers," *IEEE International Conference on Machine Learning and Applications*, 2023, in press.
2. M. Smith, L. Zhao, J. Cordova, X. Jiang, and M. Ebrahimi, "Machine learning-based energy-efficient workload management for data centers," *IEEE Consumer Communications & Networking Conference*, 2024, in press.

SKILLS

Software: *(proficient)* Java, SQL, Git *(familiar)* Kotlin, Python, Swift, C, C++, HTML/CSS/JS, ReactJS, PHP