Max Fierro

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Academic History

University of California, Berkeley Aug. 2021 – June 2025
B.A. Computer Science, B.A. Mathematics; GPA: 3.519 *Berkeley, CA*

Selected Coursework: *Machine Structures*, *Data Structures and Algorithms*, *Discrete Mathematics and Probability Theory*, *Linear Algebra and Differential Equations*, *Efficient Algorithms and Intractable Problems*, *Introduction to Database Systems*.

Professional Experience

Software Engineer Intern May 2023 – Aug. 2023
Meta *Menlo Park, CA*

- Work on a pre-alpha **advertiser value optimization** feature within the Ads Bidding team.
- Contribute to **data schema and system design** via comprehensive feasibility studies.
- Collaborate with product designers and market researchers to **consolidate an alpha** specification.
- Expand the **Meta Ads Manager** web interface to provide bid multiplier data to the ad delivery system.

MetaU Engineering Intern June 2022 – Aug. 2022
Meta *Menlo Park, CA*

- Learned **large-scale application design** with the WhatsApp Data Archive and Transport team.
- Participated in a bootcamp-style course on Obj-C and Swift **iOS development** using UIKit and SwiftUI.
- Designed and implemented a **task management application** (see "Process") as a capstone project.

Lead Endpoint Engineer May 2022 – Present
UC Berkeley SAIT *Berkeley, CA*

- Provide advising to **UC Berkeley IT leaders and CIO** as part of the Student Technology Council.
- **Lead** an endpoint management team responsible for the security and accessibility of more than 400 devices.
- Maintain campus partnerships and **oversee organizational work**, such as the hiring of 3 engineers.

Current Affiliations

GamesCrafters | Computational game theory applied research group. Jan. 2023 – Present

- Developed a **strong solution to Five-Field Kono**, a game of $> 10^9$ positions (play against solution).
- **Re-architected C codebase** for ergonomics, safety, and multi-processing support (see "GamesmanNova").
- Designed an ACID-complianta and write-optimized **database storage engine** for enabling parallelization in game solves, featuring a write-ahead log, a checkpoint system, and cached in-memory data structures.

Selected Projects

GamesmanNova | Abstract strategy game analysis system.

- System for performing **full game tree exploration** on deterministic abstract strategy finite-state games, storing and analyzing their complete solutions efficiently, and serving them to GamesCrafters' user interfaces.
- Simple **multithreaded** implementations of solution set analyzer, solving algorithm, and DBMS modules.
- Working on supporting OpenMPI for solves on **High Performance Computing clusters**.

Process | Task management application for iOS.

- Allows for many-to-many **graph of task-subtask relationships**, as opposed to simple or nested lists.
- Served using **Firebase** Auth, Storage, and Firestore (although Neo4j is better suited for storing graphs of tasks).
- Features a **recursive UI** for intuitively traversing subtask items, built with Swift and SwiftUI.

Technical Skills

Tools and Frameworks: React, SwiftUI, Git, Mercurial, OpenMPI, OpenMP, SQL, Ent.
GPPLs: Rust, C/C++, Java, Swift, Python, JavaScript.

Updated Thursday, September 7, 2023