Max Fierro

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Academic History

University of California, Berkeley Aug. 2021 – July 2025
B.A. Computer Science; GPA: 3.51 *Berkeley, CA*

Selected Coursework: *Operating Systems and Systems Programming*, *Programming Languages and Compilers*, *Machine Learning*, *Database Systems*, *Computer Architecture*, *Advanced Algorithms*, *Abstract Linear Algebra.*

Professional Experience

Software Engineer Intern May 2024 – Aug. 2024
Meta Platforms, Inc. *Menlo Park, CA*

- Enhance **ML systems** with the AI Infrastructure Production Model Training team.
- Build an auto-tuning platform for **online-trained machine learning models** (e.g., ads ranking).
- Integrate **uninformed black-box optimization** for large hyper- and production parameter spaces.
- Indpendently add **adaptive experiment-based optimization** with research and engineering support.

Software Engineer Intern May 2023 – Aug. 2023
Meta Platforms, Inc. *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 produce bid multiplier data to global ad delivery system.

MetaU Engineering Intern June 2022 – Aug. 2022
Meta Platforms, Inc. *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 – Feb. 2024
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 | Prof. Dan Garcia's 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 **LSM-Tree based database engine** for enabling parallelization in game solves while optimizing for game-theoretic algorithms' access patterns.

Selected Projects

GamesmanNova | Abstract sequential 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: Git, Mercurial, OpenMPI, OpenMP, SQL, Ent, React, SwiftUI.
GPPLs: Rust, C/C++, Java, Swift, Python, JavaScript.

Updated April 15, 2024