

Mehir Arora

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Programming Languages: Python, C, C++, Bash, Java (familiar)

Education

University of California, Santa Barbara

Sep. 2021—Expected Jun. 2025

B.S. in Mathematics | 4.0 GPA, Junior Standing

Goleta, CA

Projects

Recommddit.com | *Python, PyTorch, SpaCy, Weights and Biases, Hugging Face Transformers*

- Built a **full stack recommendation engine** from scratch in a team of 6 students
- Fine-tuned a RoBERTa transformer on named entity recognition tasks using PyTorch and SpaCy
- Tuned hyperparameters using Bayesian black box optimization across a GPU cluster with Weights and Biases
- Designed multithreaded web scraping modules yielding a 14x speedup of information retrieval compared to prior implementations
- Deployed backend service and orchestrated horizontal scaling using Kubernetes
- Organized labeling of 10k comments for named entities
- Won **first place** in the Data Science UCSB Project Showcase, as selected by corporate sponsors

Chess Engine | *C++*

- Implemented a Universal Chess Interface compatible Chess Engine that plays chess at over the **2500 ELO (Grandmaster)** level
- Utilized alpha-beta pruning, static exchange evaluation move ordering, Zobrist hashing, and killer move heuristics to achieve a nearly optimal branching factor
- Programmed a multithreaded move generation implementation that can search **200 million positions per second**

Experience

UCSB Data Science Club

Apr. 2022—Present

Project Pipeline Leader

- Creates and lectures on machine learning curriculum for over **100 pipeline members**
- Coordinated the formation of 15 project groups
- Recruited over 70 members through tabling and public speaking in club fairs
- Gave a speech about the merits of project-based learning to over **400 prospective students**

Paid Undergraduate Learning Assistant

Department of Statistics and Probability

Sep. 2022—Present

- Holds office hours for over 150 students in an upper division statistics class
- Guides students individually through challenging problem sets
- Provides valuable feedback on class materials to Professors and organizes course logistics with staff

Technical Skills

Languages: Python, C, C++, Bash, Java (familiar)

Developer Tools: Git, Docker, Kubernetes, Jupyter Notebooks, Command Line Utilities

Libraries: PyTorch, SpaCy, Hugging Face Transformers, Pandas, NumPy, Matplotlib, FastAPI