# Mihir Srivastava

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## EDUCATION

**University of California, Santa Barbara (UCSB), CA |** *B.S. in Computer Engineering* | *Senior Standing*

- Data Structures & Algorithms, Object Oriented Design, Deep Learning, Synchronous Digital Systems, Signal Processing

## EXPERIENCE

**Software Engineering Intern** | Go — July '24 - Oct '24

Spillbox | *Remote*

- Engineered a high-performance *predictive file caching* system with *distributed network* architecture, processing 100K+ log files with 95%+ accuracy.
- Optimized low-latency data retrieval across globally distributed cloud servers, collaborating with an international team to implement robust error handling.

**Software Engineering Intern** | Python, Jenkins, Google Cloud — March '22 - Oct '22

*OpenROAD Project* | *University of California, San Diego*

- Improved DevOps efficiency by modernizing the Jenkins pipeline-interface - added features such as version tracking & performance comparison, optimized workflow & redesigned user interface for test case monitoring & development.

## RESEARCH & PROJECTS

**Decompiling Parallel Patterns** | *Python, Boolean Logic, Debugging, Verilog, PyRTL* — Sept '24 – Jun '25

*Early Research Scholars Program (ERSP)* | *Santa Barbara, CA*

- Research techniques for decompiling *Boolean logic to high-level software abstractions* under Prof. Jonathan Balkind.
- Optimize de-compilation processes by utilizing Python and debugging tools for ongoing research in novel *hardware de-compilation* methods; targeting formal presentation of findings in June 2025.

**ARM Microcontroller ML Model**| *Python, C, TensorFlow, Raspberry Pi Pico |IEEE | Santa Barbara, CA* — Sept '24 – March '25

- Developed and implemented DNN for embedded systems utilizing ARM development, C, and TensorFlow.
- Optimized ML models for efficient and accurate real-time edge processing on Raspberry Pi Pico.

**AIHelp** | *Python, GroqCloud* — Aug '24 –Sept '24

- Engineered a CLI tool to interpret and execute natural language commands using *GroqCloud* API, achieving 95% accuracy in command-to-bash translation.
- Built comprehensive command validation and error handling to ensure robust & secure execution across diverse environments.

**FacEmotion**| *PyTorch, OpenCV, Gemini, Streamlit | Data Science SB | Santa Barbara, CA* — Jan '24 – May '24

- Won 1st place among 53 teams for developing a computer vision model to detect emotions of people & analyze ways to improve mood utilizing *CNN* trained on 35K+ images with 87% accuracy.
- Utilized *Gemini 1.5 Pro* to implement recommender system to thoroughly analyze frame & suggest ways to improve users' mood

**Utility Unraveled**| *React Native, Tailwind, MongoDB | Santa Barbara, CA* — Jan '24 – May '24

- Won best UI/UX award among 10 teams for developing mobile app that UCSB students & employees could use to monitor & report problems with utilities around campus like laundry machines, toilets, bathrooms, etc.
- Developed detailed navigation app, precisely mapping individual facilities and amenities using *Apple Maps API*

**Wine Quality Classifier**| *Scikit-learn, Pandas, Jupyter Notebook | Data Science SB | Santa Barbara, CA* — Jan '24 – Feb '24

- Developed classifier model using *Random Forest, Ridge Classifier, SVM, MLP, & XGBoost* to predict red/white wine quality
- Refined model to predict quality with 84% accuracy from 11 physiochemical wine properties, placing top 5 in UCSB Datathon

**Moore's Law: Its Impact Past, Present & Future** | *Polygence Symposium finalist* — May '23 - Sept '23

- Examined Moore's Law's impact on technology since 1965, quantified its ongoing relevance, & projected its future applicability, with a focus on heterogeneous architectures & 3D stacking technologies.
- Collaborated with a Ph.D. candidate from Northeastern University to contextualize Moore's Law's impact on ML development.

## TECHNICAL SKILLS

**Languages**: Python (6 years), Java (3 years), C/C++ (3 years), Rust (1 year), React Native (2 year), Go (1 year)
**Frameworks:** Scikit-learn, Pandas, Numpy, Jupyter Notebook, llama.cpp, ollama
**Tools/Platforms:** LM Studio, VS Code, Cursor, Git, Github, Eclipse, Bash, Android, Arduino, Raspberry Pi, iOS

**CLUB MEMBERSHIP:** IEEE, ACM, Data Science SB, Google Developer Software Challenge