

Karthik Bhattaram

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EDUCATION

University of California, Santa Barbara

Bachelor of Science in Computer Science, Minor in Statistics

Santa Barbara

Sept. 2022 to June 2026

- Relevant Coursework: Machine Learning for Networking, Computer Security, Data Structures, Algorithms

EXPERIENCE

Undergraduate Researcher

University of California, Santa Barbara

Sept. 2024 – Present

Santa Barbara

- Developing a **network measurement** tool featuring multimodal performance evaluation
- Objectives include improving **data quality** while minimizing participation threshold
- Cost, stateful design, and multi-vantage-point data collection are emphasized

Software Engineering Intern

Cadence Design Systems / OpenEye Scientific

July 2024 – Sept. 2024

Santa Fe, New Mexico

- Wrote **AWS**-based packages to automate **data science** workflows
- Reduced the size of a **terabyte**-scale molecule database by **45%** for the company's pharmaceutical subgroup
- Optimized and updated production software written in CUDA C++

Hardware Architecture Intern

Cadence Design Systems

June 2023 – Sept. 2023

San Jose, California

- Developed an **automation tool** to generate memory wrappers
- Designed various memory geometries to properly combine foundry-provided memories
- Wrote a **test suite** to verify that the memory could be written to and read from accurately

Software Engineering Intern

Axiado Corporation

June 2022 – Aug. 2022

San Jose, California

- Discovered **multiple bugs** in the company's chip by crafting custom network packets
- Maintained the package developed the previous Summer and added user-requested features
- Developed a **test plan** leading up to the company's product release

Software Engineering Intern

Axiado Corporation

June 2021 – Aug. 2021

San Jose, California

- Wrote package to create network traffic based on desired protocols, such as TCP, ARP, and ICMP
- Created malicious traffic in simulation to test the effectiveness of the company's product
- Published findings in the form of a **research paper**

PROJECTS

Weather Predictor | *Pandas, Numpy, Argparse, Excel, Bash, Python*

March 2024 – May 2024

- Used Pandas dataframes to handle data captured from Excel spreadsheets
- Used Numpy and Naïve Bayes for prediction
- Achieved **best-in-class accuracy** of 68.5% among 96 students
- Wrote a Bash automation script to run the training program

TECHNICAL SKILLS

Certificates: Enterprise Security Professional, Data Science

Networking technologies: Scapy, Wireshark, TCP/IP, VPN

Languages: Python, C/C++, Java, Shell, JavaScript, HTML/CSS, Verilog

Frameworks: CUDA, React, Flask, JUnit, FastAPI

Developer Tools: Git, Visual Studio Code, Vim, Emacs

Libraries: Pandas, NumPy, PyTest, Black, Matplotlib