

# SUNAMI DASGUPTA

Berkeley, CA

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## EDUCATION

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California State University - Chico

2026

Bachelor of Science, Computer Science

Chico, California

GPA - 4.0 / 4.0

Data Structures & Algorithms, Statistics & Probability, Linear Algebra, Discrete Math, Object-Oriented Programming, Databases, Operating Systems & Calculus 1-3, ACM

## EXPERIENCE

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ESNET, U.S. Department of Energy

08-2023 - present

Software Engineering Intern

Remote, California

- Spearheaded the optimization Site Resource Manager at the data link layer by developing tailored protocols in C++ which **enhanced data packet integrity by 25%** and boosted **network throughput by 15%**.
- Engineered a network monitoring system with Prometheus, Pushgateway and Grafana, significantly enhancing data accuracy and system resilience. Implemented automated L2 debugging **script generation for multiple concurrent network flows and parallel processing, boosting efficiency by 50%**.
- Optimized storage use by refining Prometheus **data retention and introducing log rotation**, successfully managing heavy workloads over extended periods.
- Implemented Docker containerization for SENSE applications, enhancing application isolation and **reducing deployment inconsistencies by 80%**.

Lawrence Berkeley National Laboratory

05-2023 - 08-2023

Software Engineering Intern

Berkeley, CA

- Implemented real-time monitoring system using Prometheus & Grafana, resulting in **40% increase** in network visibility and control for high-performance data transfers.
- Developed an automated data handling processes using Python, transitioning from static file storage to dynamic in-memory data handling, **reducing the need for storage space by 50%** and decreasing processing power requirements by 60%, leading to significant cost savings.

California State University, College of Engineering

08-2022 - Present

Teaching & Lab Assistant

Chico, CA

- Provided support to over **100 students in troubleshooting installation**, use of **Linux & SSH** connections to **access ecc-linux machines** & configuring environment variables within the **.zsh & bash source file**.

## RESEARCH, PUBLICATION & PROJECTS

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Quantitative Momentum Strategy with Sentiment Analysis

- Developed a quantitative model to **identify high-potential stocks** based on their historical price trends, using **Regression** and **Principal Component analysis**
- Enhanced the strategy by **integrating sentiment analysis**, utilizing **Naive Bayes algorithms** to process news data from a REST API and generate sentiment scores for each stock.
- Implemented **backtesting** using Python's Pyfolio library to assess the strategy's performance, and used **Sharpe Ratio** and **Drawdown** as key metrics for risk-adjusted returns.

1. **Skin Cancer Detection using Image-Processing in Real-Time**, IJTSRD, Volume-5, Issue-6, Oct. 2021

2. **Detecting Breast Cancer with Logistic Regression Model**, IJAEM, Volume-3, Issue-4, Apr 2021.

## SKILLS & HONORS

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**Languages:** C, C++, Python, Java, HTML5 / CSS, JavaScript, PHP, TypeScript, Bash Shell Scripting, MySQL.

**Technologies/Web Frameworks:** React, Node, Mongo, ExpressJS, Tailwind CSS, jQuery, Bootstrap, REST API, Mongoose, Linux/Unix, Docker, Kubernetes, Prometheus, Grafana, SQLite

1. **Google Code Jam 2022, Rank: 607 out of 45,000.**

2. **CodeChef Global Coder 2021, Rank: 9 out of 60,000+.**

3. **Stanford Hackathon, Runner-Up, Best Sustainability Project 2023 out of 1700+ hackers.**

4. **Chico State Excellence Scholarship 2022 & 2023, 1 out 1,500+.**

5. **Linux Foundation Scholar 2022, awarded for most number of Open-Source contribution.**