

Aditya (Adi) Kanteti

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Education

University of California, Santa Cruz

Sept 2024 - June 2026

- In-progress **B.S. Computer Engineering**, planned minor in Environmental Sciences and Computer Science
- Coursework: Data Structures and Algorithms, Discrete Math, Machine Learning, Data Science, Deep Learning, C Programming

University of California, Berkeley

Aug 2023 - May 2024

- Visiting student, studied **Electrical Engineering and Computer Science (EECS)**.
- Coursework: Analog Circuits, Digital Circuits, Controls/Controllability, Circuit Analysis, Linear Algebra, Differential Equations

Berkeley City College

Aug 2022 - May 2024

- **Associates in Computer and Electrical Engineering**, A.S. Mathematics magna cum laude, member of Society of Scholars
- Coursework: C++, Java, SQL, Lisp/Scheme, Object Oriented Programming, Electronics, Circuit Analysis, Physics, Mathematics

Skills

Programming | Experienced - Python | Proficient - Scala, SQL, C++ | Novice - Bash, R, Java, Scheme, IBM Qiskit, Lisp

Tools: Apache **Spark**, **AWS**, BigQuery, Git, GitHub/BitBucket, **Scikit-Learn**, TSLearn, **Pandas**, NumPy, Seaborn, Matplotlib
Cloud Computing, **Data Structures and Algorithms**, **Machine Learning**, Time-Series Forecasting/Clustering, and Serverless

Work Experience

Student Researcher III – Machine Learning Lawrence Berkeley National Laboratory Nov 2023 – Oct 2024

I developed load shifting/forecasting algorithms for water heaters (HPWHs) and thermostats at the Building Technologies Division.

- Provided technical support for a PG&E and SCE pilot program. Built a signal processing tool using **Python** with **TSLearn** and **scikit-learn** to achieve 95% **clustering** accuracy with Gradient Boosting Regressor, Barycenter Averaging, and other algorithms
- Developed advanced control signal **algorithms** using Python which reduced peak electricity usage by 70% and costs by 29%
- Built industry smart-thermostat imputation tools using **KNearestNeighbors**, KShape, and Dynamic Time Warping w/ **Python**
- Applied Dynamic Time Warping (algorithm) to realign **time-series** data from malfunctioning sensors during pilot deployments
- Engineered **synthetic** time series **data** generation tools to augment limited datasets for smart appliance behavior modeling.
- Met monthly with stakeholders from PG&E/SCE to help guide research goals, timelines, and technical documentation.

Student Researcher II – Data Engineering Lawrence Berkeley National Laboratory Jan 2024 – Oct 2024

I built and maintained large-scale data pipelines to analyze research data across teams at LBNL and the Energy Technologies Area

- Developed data analysis pipelines using **SQL**, Scala, and Apache Spark to process 3TB of data, ensuring federal data compliance
- Utilized on-site supercomputing resources to achieve **\$30k** in cost savings compared to public cloud services (AWS/Azure).
- Built tools for TB-scale data transfers using Google Service Accounts/APIs to streamline post-processing and data accessibility

Student Assistant I – Data Analysis Lawrence Berkeley National Laboratory May 2023 – Nov 2023

I assisted senior scientists and engineers with analyzing research results and writing reports/papers on topics related to energy grids

- Build a tool to quantify Scope 2 greenhouse gas (GHG) emissions using Python, Pandas, and Seaborn. Led to a journal pub.

Research Papers

IEEE DC Microgrid (ICDCM 2024) - co author

A Power-Centric Digitally-Managed 48V Distribution Technology

ACEEE 2024 Summer Study on Energy Efficiency in Buildings - co author

Using advanced M&V data to quantify the greenhouse gas impact of energy efficiency projects in commercial buildings

Leadership Experience

President - Electronics and Engineering Club at Berkeley City College

August 2022 - August 2024

- Led a team of **14 officers**, with another +200 club members. Focused on organizing events and long-term investments.
- Managed and tracked use of over **\$12,000** in club funding for use in tech, events, and socials for club members and staff.

Personal Projects

Building a Terabyte-Scale Data Lake on Google Drive for R&D Without Paying -

Personal Project

- In-progress tool that turns an enterprise Drive account into a data lake for managing **TB-scale** simulation results for free.
- Building domain-specific **data structures** to handle serialization/deserialization of TB-scale data with Google Service Accounts

wattnest.net - Personal Startup for Applying Load Shifting Algorithms to Water Heaters

Personal Project

- Utilized [Next.js](https://next.js), Typescript, and React to build a website MVP and showcase load shifting technology. 50% month of month growth
- Leading a team of 9 members in developing load shifting **algorithms**, testing **communication protocols**, and building out an MVP