

# Aditya Kanteti

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## Education

### University of California, Santa Cruz

*Present - June 2026*

- Studying **B.S. Computer Science Engineering**, incoming junior transfer student from Berkeley City College and UC Berkeley

### Berkeley City College

*Aug 2022 - May 2024*

- A.S. in Computer and Electrical Engineering**, A.S. Mathematics magna cum laude, member of Society of Scholars

## Skills

**Programming:** Python, Scala, C++, SQL, R, Java, Lisp/Scheme, Bash, IBM Qiskit (Python), MS Excel, VBA

**Tools:** Apache Spark, AWS, BigQuery, Git, GitHub/BitBucket, Scikit-Learn, TSLearn, Pandas, NumPy, Seaborn, Matplotlib

Cloud Computing, Algorithm Development, **Machine Learning**, Time-Series Forecasting/Clustering, APIs, AutoCAD, SolidWorks

## Work Experience

### Student Assistant III – Data Engineering      Lawrence Berkeley National Laboratory      Jan 2024 – Current

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

- Creating a data analysis pipeline using SQL, Scala and Apache Spark to analyze +3TB of restricted data for work with federal and state governments, ensuring adherence to regulation. Extensively using the Lawrence Livermore Supercomputing cluster for cloud computing which has resulted in +\$30k in cost savings (versus AWS/Azure) and hundreds of hours of compute savings.
- Building internal infrastructure for transferring large amounts of data (+5TB) within the Building Technologies and Urban Systems Division using google service accounts, bigquery, and APIs for post processing research results from large simulations.

### Student Assistant III – Machine Learning      Lawrence Berkeley National Laboratory      Nov 2023 – Current

I develop load shifting and forecasting algorithms for heat pump water heaters (HPWHs) under the Building Technologies Division.

- Developing a machine learning algorithm for forecasting residential electricity usage for PG&E. I'm building domain-specific Long Short-Term Memory (LSTM) networks using tensorflow keras along with Scikit-Learn, TSLearn, KMeans, KShape, and other related algorithms for clustering those signals to feed into another algorithm for developing advanced controls.
- Working on advanced control signal generator algorithms for HPWHs, which together with my above work resulted in a 70% reduction in peak pricing electricity usage, 29% in overall electricity costs, and 23% of Scope 2 GHG emissions.

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

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

- On the Advanced Measurement & Verification Research team I created a tool for analyzing Scope 2 GHG emissions by analyzing +2200k data points, which it gathered from internal tools, a TOWT (machine learning) model, 4 APIs, and internal datasets of energy consumption and carbon emissions. This tool visualized the carbon impact before and after energy efficiency implementations inside individual and fleets of buildings which supported efforts in tracking carbon footprints.

## 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

### Quantum Algorithm for Resource Management of Microgrids:      Feb 2024 - Current

- Allocating resources is a NP-Hard problem, so I'm working on a project that encodes a microgrid with power plants and consumers to efficiently take advantage of QAOA (Quantum Approximate Optimization Algorithm) on current quantum computing hardware.
- Presenting updates monthly to the Director of the Quantum Systems Accelerator, part of the National Quantum Initiative.

**Custom-built Electric Skateboard:** I learned the basics behind circuits and built my own electric skateboard from scratch.

- Programmed my speed controller for custom breaking, accelerating, and recharging through a management system (BMS)
- Improved my soldering skills through building a circuit with my BMS, brushless motors, batteries, and radio controllers.
- Resulted in an emergency room visit after brakes failed on downhill dive (recharging/BMS issue) and one month in a sling.