

# APARNA DHINAKARAN

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## EDUCATION

### University of California, Berkeley

August 2012 - May 2016

Major: Electrical Engineering and Computer Science

Regents and Chancellor's Scholarship Recipient - Highest Undergraduate Honor

Leadership Award Scholar - Most Prestigious Merit-Based Scholarship awarded by CAL Alumni Association

EECS 2015 Department Award - Eugene Lawler Prize

## SKILLS

Python, Java, C, SQL, Matlab, L<sup>A</sup>T<sub>E</sub>X

Hadoop, Apache Hive, Numpy, Scipy, Coda, Github, Eclipse, GeneCluster, TreeMap

## WORK EXPERIENCE

### Software Engineer Intern, Apple Inc.

May 2015 - Aug 2015

Emerging Technologies Team

### Software Engineer Intern, Improving Outcomes

Jan 2015 - May 2015

Founding Member of health-tech startup enabling healthcare providers to collect information on the functional, symptomatic and quality-of-life outcomes of care using clinically validated patient-reported surveys. Worked on client application.

Accepted into CAL's startup incubators : Skydeck and Free Ventures

### Machine Learning Engineer Intern, TubeMogul

June 2014 - August 2014

Developed clickbot detection algorithm for differentiating between humans and bots for advertising campaigns.

Employed Hive Tables to collect site visitation and frequency statistics for user differentiation. Detected patterns in user activity using GeneCluster and Treeview to determine key features for hierarchical and multidimensional clustering. Integrated Boosted Decision Trees and Neural Nets in development of bot taxonomy.

### UC Berkeley Mathematics Teaching Assistant

August 2013 - May 2014

Taught UC Berkeley undergraduates Multivariable Calculus, graded homeworks, and lead office hours.

## RESEARCH

### Hybrid Systems Laboratory

September 2015 - Present

Advisor: Claire Tomlin, EECS

Working on Regression-based Inverter Control Design for Power Flow and Voltage Regulation

### Berkeley Represent: Information Technologies for Farmers

August 2014 - May 2015

Advisor: Professor Tapan Parikh, School of Information

Selected by Computing Research Association for National Science Foundations's funding

Designed smart rainfall measurement system to increase Kenyan smallholder farmers' access to markets and knowledge.

Contributed to a data science initiative to analyze Avaaj Otalo, a voice based social media for farmers in Gujarat, India.

### Berkeley Energy and Sustainable Technologies (BEST) : Smart Lighting Systems

February 2013 - June 2014

Advisor: Professor Alice Agogino, Mechanical Engineering

Developed a new lighting system, that builds a predictive model of a room to effectively allow lights to adapt to occupant demands.

Designed multi-hop network to a local server to implement computations for light level predictions and optimal sensor placement.

Developed indoor lighting inverse model, SQLite database for linear regression models and user-friendly installation program.

## PUBLICATIONS

### Sensor-Based Predictive Modeling for Smart Lighting in Grid-Integrated Buildings

Basu, C., Caubel, J.J., Kyunam Kim, Cheng, E., Dhinakaran, A., Agogino, A.M., Martin, R.A.

IEEE Sensors Journal (Volume: 14, Issue: 12), 2014.

### Affordable and Personalized Lighting using Inverse Modeling and Virtual Sensors

Chandrayee Basu; Benjamin Chen; Jacob Richards; Aparna Dhinakaran; Alice Agogino; Rodney Martin.

Proceedings of SPIE, Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems, 2014

## SELECTED PROJECTS

### Smart Storybook: <https://github.com/UCB-IoET/smart-storybook>

An augmented environment coordinator for storytelling. Smart Storybook polls devices in a room for storytelling capabilities (e.g. light, sound, smell) and contributes a content creation tool that synthesizes output into a unique storytelling experience.

### Best Regards : Handwritten Thank You Cards Generator

Developed a web service that automates handwritten thank you cards using Maillift's API and Ruby on Rails. Implemented a custom-built JQuery calculator that informs how much time users would save. Integrated Stripe's API to accept payments.

## ACTIVITIES

**Debate:** CAL APDA Debate Team, Ranked Distinction by National Forensics League, Top 50 National Teams in Parli 2011

**Ballet:** Completed Advanced Pointe training and certified by Mission Dance and Performing Arts Studio

**Saraswathi Ammal Charitable Trust:** Raised over 6000 dollars towards the orphanage's education

**CAL Lightweight Crew**