ANDREW CHOW

PERSONAL INFORMATION

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EDUCATION

University of California, Berkeley
B.S. Sustainable Energy Engineering in Conservation & Resource Studies Major
May 2020
Minors:
Energy Engineering
Sustainable Environmental Design

SKILLS

Python & MATLAB Programming
Microsoft Office & Google Suite
Arduino / Circuits / Sensors
ARC/QGIS
AUTOCAD/CAD
Adobe Lightroom
SPRINT Design Process
SQL, Tableau

AWARDS

DEED Public Power Scholarship

RELEVANT COURSEWORK

Electric Power Systems
Data Science and the Environment
Design of Cyber-Physical Systems
Geographic Inform. Systems (GIS)
City Planning for Sustainability
Thermodynamics
Physics of Photovoltaics
Regulation of Energy and the Environment
Climate Change Economics

WORK EXPERIENCE

Renewable Appropriate Energy Lab, Prof. Daniel Kammen *June 2018 - Present*
Undergraduate Researcher | *UC Berkeley*

Project 1: SELF-SWITCH model in San Joaquin Valley with CEC & Self-Help Enterprises
- Developed a site suitability analysis of renewable energy resources adjacent to DACs
- Present project goals during lab meetings about solar and biogas capacity

Project 2: Greenhouse Gas Accounting Methodology for Laikipia County, Kenya
- Developed an emissions methodology for livestock/wildlife populations in Laikipia, Kenya
- Analyzed soil organic and above ground carbon data using QGIS mapping software

Energy Solutions, Consulting Firm *June 2019 - August 2019*
Energy Efficiency Summer Intern | *Oakland, CA*
- Accelerated utility adoption of midstream rebate programs by leading a team in creating a customer touchpoint program consisting of data management and a suite of marketing materials (Adobe InDesign)
- Optimized the use of energy efficiency customer rebate data in Excel and Python (pandas)

Public Works Department, Contra Costa County *June 2018 - August 2018*
Transportation Engineering Division Summer Intern | *Martinez, CA*
- Designed Pedestrian Plans for 2 Bay Area sites with a literature review and CAD
- Calculated cost estimates using onsite measurements and google earth data

PROJECT EXPERIENCE

Optimizing HVAC in Commercial Buildings *August 2019 - Dec 2019*
Design of Cyber-Physical Systems | *UC Berkeley*
- Developed an HVAC optimization product to predict and create a day-ahead HVAC schedule to improve occupancy comfort, productivity, and energy savings
- Software*:* Coded a predictive algorithm that uses the CBE Comfort Tool, Weather Forecast Data (Dark Sky API), Sensor Data, and Occupancy Feedback
- Hardware*:* Utilized Arduinos to collect temperature, humidity, and motion sensor data and designed wooden sensor housings and a model building
- Web Visualization*:* Designed a feedback form and a real-time office temperature forecast
- Project Management*:* Utilized project board (Monday.com) to organize both group and individual tasks
- Pitched our HVAC product to cleantech experts and created a 20 page report and poster

Machine Learning to Predict AC Ownership in CA *August 2019 - Dec 2019*
Data and the Environment, CA Energy Commission | *UC Berkeley*
- Predicted AC/ventilation ownership for disparate air quality impacts from wildfires
- Ran models (trees, forests, SVM, KNN) to **1.** Identify the most important feature in predicting AC ownership, **2.** Predict percentage AC ownership in every census tract in CA, and **3.** Identify the top 3 counties for AC resource allocation
- Created an academic poster and presentation

Microgrid Site Suitability Analysis in Santa Rosa, CA *August 2019 - Dec 2019*
Geographic Information Systems (ARCGIS) | *UC Berkeley*
- Performed a raster site suitability analysis for microgrid placement in Santa Rosa, CA
- Modeled ideal sites as 3D/TIN and estimated their energy capacity using GIS analysis tools

LEADERSHIP EXPERIENCE

GRID Alternatives: Solar Spring Break w/ Student Environment and Resource Center (SERC) *March 2018 - August 2019*
Project Team Co-Leader | *Oakland, CA*
- Installed 10kW of solar arrays on 2 underserved households as a team leader of 24 Berkeley students on Spring Break
- Fundraised $10,000 through grants, corporate sponsorships, and crowdfunding to purchase solar panels
- Facilitated and taught a 2-unit UC Berkeley course on solar energy and environmental justice

Floating Wetland Project: East Bay Regional Parks District, Engineers for a Sustainable World *May 2017 - Present*
Co-Project Lead, Website Creator, Fundraising Lead | *UC Berkeley: Lake Temescal, Oakland*
- Designed, built, and launched floating wetland to reduce toxic algal blooms in Lake Temescal, Oakland
- Led a Berkeley crowdfunding effort and successfully raised $3,700 through project website

Additional Activities: Musician: Saxophone & Piano (17 years), Fishing/Foraging, Basketball, Berkeley Energy and Resources Collaborative