Renn Darawali

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EDUCATION

Master of Science, **Mechanical Engineering** — December 2016
University of California, San Diego — GPA: 3.44/4.00

Bachelor of Science, **Environmental Engineering** — June 2015
University of California, San Diego — GPA: 3.56/4.00

PROGRAMS AND SKILLS

Programming: Matlab, Python, LabVIEW, MySQL, Arduino, Qt
Modeling: PVSyst, SolidWorks, ESRI ArcGIS, AutoCAD, Inventor
Operating Systems: Windows, GNU Linux, MacOS

EXPERIENCE

Graduate Researcher, Coimbra Energy Group — May 2014 - Present
Center for Energy Research, UCSD | La Jolla, CA

- Analyzed machine learning based cloud classification methods derived from satellite imagery to be used in solar forecasting
- Designed, prototyped, and field tested a low cost sun tracking sky imager on a single board computer (Beaglebone Black) using Python programming
- Developed UI tools in Python for remote calibration and data acquisition from the sky imager over network protocols
- Validated meteorological data from newly fabricated sensor networks using statistical analysis
- Currently employing adapted solar forecast models onto single board computers for stand alone forecasting system

R&D Intern, Mechanical Engineering — July 2016 - Present
Mytech Medical | La Jolla, CA

- Improved process specifications and developed new tooling for manufacturing efficiency
- Produced prototypes of catheter deployment systems and report design improvements
- Troubleshot manufacturing equipment and monitoring instrumentation

Teaching Assistant, Fundamentals of Engineering Application — July 2016 - August 2016
Jacobs School of Engineering, UCSD | La Jolla, CA

- Instructed 60+ freshman engineering students and introduce various engineering concepts (calculus, statistics, design) to create foundation for future academic success
- Lead workshops on data analysis in Python and MATLAB, 3D modeling in SolidWorks
- Dveloped term project to incorporate 3D modeling and printing, Arduino programming, and basic circuit elements.

PROJECT EXPERIENCE

Portable Desalination Unit — April 2015 - June 2015
Environmental Engineering Senior Design Laboratory, UCSD | La Jolla, CA

- Designed a portable solar desalination system using an evacuated tube solar collector
- Developed an Arduino Uno data logger to monitor temperature and irradiance data
- Calculated thermal and performance efficiency of the prototype and modeled freshwater output

San Diego Topology and Native Plant Growth — January 2015 - March 2015
GIS and GPS for Scientists, UCSD | La Jolla, CA

- Mapped the effects of slope orientation on native California plant species
- Generated kernel density maps to depict general coverage of plant species in ArcMap
- 3D Modeled topology of the Scripps Coastal Reserve using Digital Elevation Model data from LiDAR surveys

ACTIVITIES AND AWARDS

Undergraduate Student Leadership Award | Jacobs School of Engineering — June 2015
Theta Tau, *Member* | Nationwide Professional Engineering Co-Ed Fraternity — May 2013