

Renn Darawali

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EDUCATION

*Master of Science, **Mechanical Engineering***
University of California, San Diego

December 2016
GPA: 3.41/4.00

Graduate Coursework:

- MAE 207: Introduction to Stochastic Modelling
- SIO 221: Time Series Analysis
- MAE 208: Engineering Mathematics
- MAE 221 : Heat Transfer, Mass Transfer
- MAE 256: Radiation in Energy Applications
- MAE 210: Fluid Mechanics

*Bachelor of Science, **Environmental Engineering***
University of California, San Diego

June 2015
GPA: 3.56/4.00

PROGRAMS AND SKILLS

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

RESEARCH EXPERIENCE

Graduate Researcher, Coimbra Energy Group
Center for Energy Research, UCSD | La Jolla, CA

October 2016 - Present

- Designed, prototyped, and field tested a low cost sun tracking sky imager on a single board computer (Beaglebone Black) using Python and Linux scripting
- Developed UI tools in PyQt for remote calibration and data acquisition from the sky imager over network protocols
- Currently employing adapted solar forecast models onto single board computers for stand alone forecasting system

Undergraduate Researcher, Coimbra Energy Group
Center for Energy Research, UCSD | La Jolla, CA

May 2014 - October 2016

- Analyzed cloud classification methods basic machine learning algorithms for solar forecasting
- Created an automated database uploader of real-time power and irradiance data using MySQL
- Assessed accuracy of solar instrumentation using statistical approaches with Python programming
- Modeled 4 years of power output and irradiance data of a 1MW PV plant in San Diego with Python programming

WORK EXPERIENCE

R&D Intern, Mechanical Engineering
Mytech Medical | La Jolla, CA

July 2016 - Present

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

PROJECT EXPERIENCE

Portable Desalination Unit
Environmental Engineering Senior Design Laboratory, UCSD | La Jolla, CA

April 2015 - June 2015

- 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
GIS and GPS for Scientists, UCSD | La Jolla, CA

January 2015 - March 2015

- 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

TEACHING EXPERIENCE

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
- Developed term project to incorporate 3D modeling and printing, Arduino programming, and basic circuit elements.

Senior Pre-Engineering Program Leader, IDEA Student Center

July 2015 - August 2015

Jacobs School of Engineering, UCSD | La Jolla, CA

- Appointed Senior Leader for Summer PrEP 2015, a 5 day residential program to mentor 50+ incoming freshman engineers. Was previously a Student Leader (2013)
- Lead team of 8 student leaders to lead educational and community building excercises
- Developed interactive engineering activities to expose students to applications of engineering
- Constructed and organized program schedule and responsible for schedule execution

ACTIVITIES AND AWARDS

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

June 2015

May 2013