

# Derek Balke, Mechanical/Electrical Engineer

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## Summary

Highly skilled and result oriented professional - Trained in both Mechanical and Electrical Engineering – Experienced working in diverse environments – Outstanding planning, organizational, and communication skills - Cross-functional team leadership (USCG) – USCG Veteran, honorable discharge June 2015 – Seeking full time employment in technology or product development role

## Education

### University of Michigan

Ann Arbor, MI

Sept. 2015 – Dec. 2016

M.S. Electrical and Computer Engineering (ECE): Power and Energy, 3.5 GPA

December 2016

Member of IEEE Eta Kappa Nu Honor Society



### United States Coast Guard Academy (USCGA)

New London, CT

June 2008 – May 2012

B.S. Mechanical Engineering, 3.7 GPA, high honors

May 2012



## Professional History

### Intern: One Energy LLC

Findlay, OH

May – Aug. 2016

- Developed and implemented electromagnetic field test plan to ascertain health/operation risks, site found to be safe.
- Updated measure correlate predict program, in C#, for more comprehensive predictions of expected wind resources.
- Analyzed SCADA data on wind turbine site to determine what effect wake loss has on turbines.

### Officer: Marine Engineer: US Coast Guard

Alameda, CA

June 2012 – June 2015

- Led two divisions of six technicians on-board CGC STRATTON in maintenance and operation of engineering systems, assured cutter's mission readiness and worldwide deployment ability.
- Motivated and organized crew to complete extensive mine and torpedo countermeasure preparation - completion of which set a new record for fastest time for a vessel that size (incident-free).
- Project Management - Renovated ship common areas on CGC STRATTON, improved function of facilities.
- Revised CGC STRATTON diagrams of damage control and other piping systems, aiding rapid response to disaster.

## Project Experience

- **USCGA** - Cooperated with three classmates on a senior design project team to create an unmanned vessel system with a dock with emphasis on affordability and self-sufficiency, both vessel and dock worked successfully in operational tests.
- **U of M** - Collaborated on an interdisciplinary student design team that created an energy efficient electric vehicle that successfully competed in Shell Eco-Marathon with maximum energy efficiency above 2400 MPGe.

## Leadership and Teamwork Experience

- Trained crew of 130 in damage control and ship survival skills and organized in-port training exercises - crew successfully passed assessments and qualified for effective response to shipboard emergencies.
- Organized and led special project teams for Base Alameda in set up for North Pacific Coast Guard Forum and Naturalization Ceremony on CGC WAESCHE – international events with positive feedback.
- Eagle Scout - Coordinated remediation effort at Detroit River International Wildlife Refuge for Eagle project.

## Technical Skills and Competencies

Active DoD Secret Security Clearance.

*Hazard Response:* fire, flooding, structural damage, SCBA operation, and first aid.

*Certification:* Engineer in Training (EIT), April 2012.

*Familiar with:* Solid Works, C, C++, C#, MATLAB/SIMULINK, and LabView.

*Practical experience with:* electric motors, microcontrollers, diesel engines, gas turbines, AC generators, electrical distribution, piping systems and pumps, heat exchangers and cooling systems, air conditioning, refrigeration, and desalination.

## Communication Activities

Editor and author of Coast Guard procedure at CG Base Alameda.

Writing tutor volunteer for Oakland, CA high schools.

University of Michigan ECE student ambassador.

English Learning Institute conversation circle facilitator at University of Michigan.