

Nicholas Willems

6301 Chelton Drive
Oakland, CA 94611

(630) 995 1080
nwillems@eng.ucsd.edu

Education

**Bachelor of Science: Mechanical Engineering, Minor: Mathematics,
Certificate: Sustainable Energy Systems (May 2016)**

The University of Texas at Austin

GPA- Major: 3.88/4.00 | **Cumulative:** 3.81/4.00

Relevant Courses:

Statics, Mechanics of Solids, Machine Elements, Engineering Physics I & II, Thermodynamics, Fluid Dynamics, Dynamics, Heat Transfer, Materials Engineering, Dynamic Systems & Controls, Mechatronics, Turbomachinery & Compressible Flow, Thermal-Fluid Systems, *Renewable Energy Technology*, Differential Equations, Linear Algebra & Applications, Complex Analysis, *Partial Differential Equations & Applications*, Statistics, Design Methodology, *Senior Design, Independent Project in Mechanical Engineering*, Design & Graphics, Communications, Finance, Varied Lab Experience

Pre-candidacy Ph.D. Student: Control Systems & Dynamics

University of California, San Diego

Skills

Significant experience & ability: Java, C++, Mathematica, MATLAB, LabVIEW, CREO2 & SolidWorks
Strong Communication Skills & Interpersonal Aptitude
Passion for Working in Teams & a Love for Innovation
Highly Skilled at Adapting to Unfamiliar Problems and Situations
Experience relating to people from a wide variety of cultural backgrounds
Proficient in Dutch & Spanish – Dual Citizen of Belgium & USA

Accomplishments

National Science Foundation Scholarship Recipient, 2015
Tau Beta Pi – Texas Alpha, Engineering Honors Society, Present
University of Texas Honors – All Semesters
Active Member, **UT Formula SAE**, 2012 – 2014
Athlete, UT Austin Sailing Team, 2013 – 2014
Active Member, ASME, 2012 – Present
Member, **ASME** Rube Goldberg Competition Team, 2012
National Merit Scholar – Commended Student, 2011
AP Scholar, 2012
Co-Captain, Pioneers in Engineering Robotics Competition, 2010 – 2012

Experience

- 6/2015 – 8/2015 **Undergraduate Research Assistant** – Boston College Physics Department
Professor David Broido
Implemented Mathematica for Computational Modeling of low frequency Phonon based Heat Transfer in Materials with cubic cell structure.
Learned Quantum Mechanics concepts far beyond the scope of a Mechanical Engineering degree.
- 3/2015 – 5/2015 **Undergraduate Research Assistant** – UT Nanomaterials & Thermo-Fluids Lab
Professor Li Shi
Works closely with research associate on project investigating thermal batteries. Involved at all levels of the project from electrochemical etching process to thermal conductivity testing and SEM photography of Ultrathin Graphite Foam.
- 5/2014 – 8/2014 **Paid Reliability Intern** – Cummins Fuel Systems
Projects included:
Built 2 MATLAB GUIs for improved data visualization & processing
Designed & Validated 1 test fixture in CREO2: Concept → Final Product
Analyzed warranty claims & preformed other miscellaneous projects
Worked in several different teams with employees ranging from Unionized-Technicians to Senior Engineers
- 1/2014 – 12/2014 **Physics & Math Tutor** – Sanger Learning Center (UT Austin)
Tutored peers in college level Calculus & Physics I (mechanics) as well as all prerequisite coursework
Excelled in both one-on-one & group tutoring settings
Demonstrated patience working with people needing varying levels of help
- 5/2013 – 7/2013 **Lab Assistant** – UC Berkeley Rapid Prototyping Lab
Professor Al Pisano
Performed material properties testing for rapid prototyping polymer
Constructed & Analyzed Stress-Strain diagrams to determine yield stress & elastic modulus using Excel
Studied analysis procedures & compiled resources for future students
Managed inventory of lab that serviced over 400 students in just 18 months
- 6/2012 – 8/2012 **Paid Intern** – BP Energy Biosciences Institute at UC Berkeley
Assisted Managing Director by:
Managed internal wiki system & organized research documents
Constructed Surveys to gauge employee satisfaction, collect feedback
Gained exposure to company research topics
Excelled to complete work 3-4 days ahead of time
- 2009 – 2012 **Boatwork Handyman** – Island Planet Sails, Self-Employed
Worked on wood varnish, replaced battery bay, removed/installed water heater, etc.
Learned complex boat maintenance procedures often & independently
Took initiative to work extra hours as self-employed laborer