

# Alexander C. English

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## Education

### University of California, Berkeley

Berkeley, CA

Physics B.A., *cum laude*, Mechanical Engineering minor (GPA: 3.76)

August 2015 – May 2020

- Physics Courses: Analytic Mechanics, Circuits & Instrumentation, Electricity & Magnetism, Experimentation, Mathematical Physics, Quantum Mechanics, Special and General Relativity, Statistical Mechanics, Waves & Optics
- Engineering Courses: Solid Mechanics, Dynamics, Fluid Dynamics, Thermodynamics, Feedback Control Systems, UAV Design and Control, Modeling (AutoCAD & SolidWorks)

## Experience

### Space Sciences Laboratory (SSL) Mechanical Engineering Assistant

Berkeley, CA

January – May 2019

- Worked with mechanical engineers under supervision of Director Stuart Bale
- Designed an engineering test unit for optics on Keck Planet Finder (KPF) spectrograph

### SpaceX Propulsion and Government Mission Integration Intern

Hawthorne, CA

May – August 2018

- Served as interface between customers and responsible engineers during NASA Crew and EELV qualification campaign for Falcon 9 Block 5 Merlin Engines
- Negotiated requirements with customers and coordinated additional testing and engineering rationale to verify major engine components and valves on Stage 1 and 2
- Automated transfer of all engine test data from SpaceX internal servers to customers
- Obtained 45<sup>th</sup> Space Wing approval for all Range Safety requirements of STP-2 mission

### SpaceX Commercial Mission Integration Intern

Cape Canaveral, FL

May – August 2017

- Provided mission and customer support to process satellites and integrate payloads throughout duration of BulgariaSat-1 (SSL) and Intelsat 35e (Boeing) launch campaigns
- Lift-trained (scissor, aerial, forklifts), cleanroom-trained, administrative experience
- Conducted magnetic survey to ensure STP-2 mission adherence to ICD requirement

### Co-President and Founding Member of Goldeneye

Berkeley, CA

January 2017 – April 2018

- UC Berkeley independently formed student-run engineering club
- Pilot Project: high-lift, low-noise, supersonic business jet design concept to meet NASA Aeronautics Design Challenge performance and environmental goals by 2025 (see Honors)
- Built autonomous vehicle for research project sponsored by Aptiv PLC
- Utilized LIDAR sensors, actuators, and machine learning for localization, classification, path planning and execution, target vehicle pursuit and interception

### CalTech Summer Undergraduate Research Fellowship (SURF)

Pasadena, CA

May – August 2016

- Research Fellow to Marvin L. Goldberger Professor of Planetary Science David Stevenson
- Designed hydrostatic equilibrium equations to predict Jupiter's core size and mass
- Constructed models of planet's interior for data collected by NASA's Mission Juno

## Honors

2017	Honorable Mention, NASA Aeronautics University Design Challenge	Hampton, VA
2017-19	President of UC Berkeley NCBA Club Baseball Team	Berkeley, CA
2016	Fourth Place, National Student Steel Bridge Competition	Corvallis, OR
2016	First Place, Mid-Pacific Regional Conference – Steel Bridge Team	Chico, CA
2015	French Guide-Translator for Moroccan delegation at Special Olympics	Los Angeles, CA
2015	Valedictorian of South Pasadena High School (GPA: 4.0, unweighted)	South Pasadena, CA
2015	Rabi Scholar (research scholarship for students admitted to Columbia University)	New York, NY
2015	National Merit Scholar Finalist	South Pasadena, CA
2015	Second Place, SkillsUSA CA State Cabinetmaking Competition	San Diego, CA

## Skills

**Computer Languages/Programs:** proficient in C++, Java,  $\text{\LaTeX}$ , Mathematica, Python, MATLAB/Simulink, AutoCAD, SolidWorks

**Metalworking & Woodworking:** skilled in milling, lathing, welding (TIG & MIG), CNC operations

**Competitive Yoyoing:** attends meets and competitions; gave “Yo-yoing” TEDx Talk at TEDxSouthPasadenaHigh (May 30<sup>th</sup>, 2015)

**Foreign Languages:** fluent in French and Italian