Aayush Patel

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Education

2016 - 2020 **University of California, Berkeley | Berkeley, CA**

B.S. - Mechanical Engineering — May 2020
Minor - Electrical Engineering & Computer Science
Certificate - Entrepreneurship & Technology

Relevant Courses
- Intro Solid Mechanics
- MATLAB
- Drafting & Design / CAD
- Physics Mechanics, Magnetism, & Elec.
- Linear Algebra / Differential Equations
- Multivariable Calculus
- Tech Firm Leadership
- Java

Experience

May 2017 - Aug. 2017 **Mechanical Engineering Intern | NovaWurks**
- Led the restoration and depressurization of a vacuum chamber for in-house HiSat (Hyper-Integrated Satlet) TVAC testing to reduce outsourcing fees
- Designed and manufactured a versatile rig to more accurately test HiSat camera functionality as satlet production increased
- Directly communicated with local machinists to design for manufacturability
- Optimized model satlet quick connectors by developing a multi-material design that fused rubber and plastic using polyjet 3D printers to create an efficient 'ball catch' system
- Gained rapid prototyping experience by utilizing mills, lathes, and FEA to develop parts

Dec. 2016 - present **CalSol (Solar Electric Vehicle Team) | University of California, Berkeley**
- Working in the mechanical team to design and analyze the chassis and suspension for the next generation solar electric vehicle
- Aided in the design of the vehicle doors in order to minimize risk of injury to the driver by redirecting forces and improving the crush zone, assuming a 5g impact
- Actively learning how to work and design with composite materials, such as fiberglass

Mar. 2017 - present **Student Technology Fund Program Associate | University of California, Berkeley**
- Managing analysis and documentation of STF project proposals and actively funded projects
- Maintaining and designing the STF website, including content updates for funded projects
- Interviewing project leaders who are requesting potential funding

Jun. 2015 - Aug. 2015 **Research Intern | University of California, Irvine**
- Manufactured and successfully flew an insect-like flapping wing micro air vehicle
- Designed and optimized the primary frame and passive flapping mechanism to generate greater lift with lower power consumption

Projects

Feb. 2017 - Mar. 2017 **ASME Aerospace Design Challenge | University of California, Berkeley**
- ***Awarded 1st Place by ASME and Best Use of Fusion 360 by Autodesk***
- Designed a vertical take-off and landing personal air vehicle (PAV) for middle-class consumers
- Used Fusion 360 to design the PAV and worked under strict production and operational limits
- Focused on the physics and mechanics of the tilt wing system, including power transmission

Nov. 2016 **Dual Output Servo Design Project | University of California, Berkeley**
- Created a set of AutoCAD drawings, redesigning a single output servo into a dual output servo

Awards

Mar. 2017 **Best use of Google App Engine (Hacktech 2017) | Google**
- Developed a NLP-based chatbot to control Nest Smart Thermostats through Skype, Facebook Messenger, or SMS and utilized Microsoft Azure's LUIS API to process user inputs

Jan. 2016 **Finalist Scholar | The National Space Club**
- Recognition in mechanical engineering for research with micro air vehicles and robotics work

Dec. 2015 **Invention Challenge | NASA-JPL**
- 3rd Place & Most Unique Projectile Launching System Design

Skills

Programs: Solidworks, AutoCAD, Autodesk Inventor and Fusion 360, MS Office Suite, Adobe Suite
Machining/Manufacturing: mills, lathes, hand-tools, laser cutting, FDM and polyjet 3D printing