JASON KAUFMANN

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EDUCATION

UNIVERSITY OF PENNSYLVANIA (PHILADELPHIA, PA)

Dual Degree Student: — *Class of 2021*
College of Arts and Sciences: Candidate for B.A. in Physics — *GPA: 3.85/4.0*
School of Engineering: Candidate for B.S. in Engineering (Electrical Engineering)

SUNCOAST HIGH SCHOOL (PALM BEACH COUNTY, FL)

MSE (Math, Science, and Engineering)/IB (International Baccalaureate) Programs — *Class of 2017*
Awards/Activities: National AP Scholar, Science Pathfinder Scholarship Winner, Varsity Soccer — *GPA: 4.0/4.0*
ACT, SAT IIs: 36 Composite, 800 Math II, 790 Physics / IB Diploma Programme Score: 41

EXPERIENCE

SPACE EXPLORATION TECHNOLOGIES – Power Electronics Intern *(Hawthorne, CA)* — *May – August 2020*

- Developed a custom PCB in Altium which will fly on the next batch of 60 Starlink satellites to inform usage of Tesla SiC FETs on Starship high voltage systems at the direct request of Elon Musk.
- Used LTSpice (transient) and SIMPLIS (AC) to develop a miniature high voltage step up converter without the need for any large transformers/inductors.
- Coded in C++ on a STM32H7 microcontroller to detect transistor faults and report them to the flight computer.

ASTRANIS SPACE TECHNOLOGIES – Avionics Intern *(San Francisco, CA)* — *August – December 2019*

- Developed a custom PCB for the thermal control system to deal with the extreme temperature swings in geosynchronous orbit on the satellite, keeping all critical components within 5°C of required temp.
- Developed a custom power distribution PCB to monitor and deliver power to the RF components including the low noise amplifiers and down/up converters for the communication systems.

PENN ELECTRIC RACING (FSAE) – Electrical Hardware Member *(Univ. of Pennsylvania, PA)* — *August 2017 – Current*

- Employed Altium in the production of custom PCBs used on the car including the BMS (battery management system), PCM (powertrain control module), PDU (power distribution unit), and the MOC (motor controller).
- Helped produce first competitive 4WD racecar in the US, placing 3rd in Formula SAE Lincoln last year.

EXPEDITED TRAVEL – Software Intern *(Palm Beach, FL)* — *June – August 2018*

- Led software development of online platform to expedite DMV form registration by leveraging machine learning and facial recognition to make a fully online verification process.
- Coded in Javascript and PHP to create website and communicate with external APIs.

STANFORD UNIVERSITY – Cardiothoracic Surgery Intern *(Palo Alto, CA)* — *June 2016 – 2017*

- Studied at Falk Cardiovascular Research Center and performed simulated procedures, including CABG (Coronary Artery Bypass Grafting), aortic valve replacement, cardiopulmonary bypass and suturing.
- Developed a prototype device that reduced the time needed to suture two blood vessels together from over 10 minutes to under 1 minute at 1/5 the cost of manual sutures and normal suturing techniques.
- Attended lectures by and shadowed cardiothoracic surgeons from Stanford and UC Berkeley.

INTEL INTERNATIONAL SCIENCE AND ENGINEERING FAIR – Grand Award Winner *(Phoenix, AZ)* — *May 2016*

- Project: an affordable, higher-end, consumer FDM 3D printer
- Reduced the cost of the printer to $400, a vast savings (over 500%) in comparison to the multi-thousand dollar commercially marketed printers – without sacrificing quality, efficiency, or reliability.
- Recognition: 4th place - Engineering Mechanics

TOPS SOCCER – Volunteer *(Jupiter, FL)* — *2013 - 2017*

- Fostered confidence in young athletes with disabilities by helping them learn soccer and having fun.

SKILLS AND INTERESTS

SKILLS: Microsoft Office & Project, C++, Python, Altium, MatLab, Solidworks (CAD), Spanish (Proficient), Sarcasm
INTERESTS: Automotive & Aerospace Engineering, SCUBA Diving, Fitness, Machine Learning, Early US History, Politics