Derek Goss

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EDUCATION

Cornell University, **College of Engineering** • Ithaca, NY — Aug 2018 – May 2022 expected
Bachelor of Science, Engineering Physics — 3.57 GPA

Harriton High School • Rosemont, PA — June 2018
International Baccalaureate Diploma — 4.98/5 GPA

EXPERIENCE

Cornell Racing (Formula SAE) Project Team — **Ithaca, NY**
Electric Powertrain Engineer — Oct 2018 – present

Contributes to designing, manufacturing, and racing an electric formula-style race car for official FSAE competitions. Currently working on our second-generation high performance electric powertrain for the 2020–21 season.

- Programmed a Python algorithm to select an optimal battery technology and cell layout for peak vehicle performance
- Used CAD and FEA to produce a robust pack mounting system capable of withstanding accelerations of 40g
- Designed electrical systems to support safe battery charging, including PCBs for precharge/discharge and shutdown
- Currently redesigning our battery modules and pack enclosures to implement a modular component architecture, simplify manufacturing and maintenance processes, and improve safety for high voltage areas

Virginia Tech Assistive Robotics Lab — **Blacksburg, VA**
Mechanical Engineering Intern, Exoskeleton Design — June – Aug 2019

Developed next-generation passive exoskeletons for industrial and consumer lifting applications.

- Prototyped low-budget mechanical systems to detect bending motions from specific movements in the torso and legs
- Bend-tested samples of industrial fiberglass and carbon fiber strips to experimentally calculate energy return
- Sewed lightweight and breathable textile harnesses for the hips and legs

Synchro — synchrostopwatch.com — **Haverford, PA**
Creator and Developer, iOS App — Aug 2017 – June 2018

Built an innovative stopwatch & logging app for athletes and coaches, used in over 10 countries and featured on the popular running blog LetsRun.com.

- Quickly share detailed stopwatch data with others by sending them an encoded link
- Integrates live weather, tracking splits for multiple athletes simultaneously, and searchable logs
- Haptic feedback and volume button controls keeps eyes on the event instead of the screen

Project Cognoma — University of Pennsylvania Greene Lab — **Philadelphia, PA**
Project Manager and Software Engineering Intern — June – Aug 2017

Directed development and launch of Project Cognoma, a free online machine learning platform for cancer research. The system analyzes correlations between gene-specific mutations and cancerous conditions.

- Constructed a fleet of Django servers on Amazon ECS to process large cancer datasets with the lab's machine learning techniques
- Orchestrated open source contributions to the project from cancer biologists, data scientists, and web designers
- Delivered lectures on containerized cloud deployment strategies at lab-hosted community meetups

LEADERSHIP & INVOLVEMENT

- Cornell Applied & Engineering Physics Society, Secretary (2020) — 2020 – present
- Cornell Pi Kappa Alpha Fraternity, Member at Large (2020) — 2019 – present
- Cornell Triathlon Club — 2018 – present
- Harriton HS Cross Country and Track Teams — Varsity Team Captain, 4-year letterman — 2014 – 2018

Skills: Product Design, Rapid Prototyping, Computational Science, Project Management, Marketing Strategy

Interests: Cooking and molecular gastronomy, rap music culture, endurance sports, wearable devices, sustainable transportation, travel photography, riveting podcasts (*Radiolab*, *Criminal*, *This American Life*)