Derek Goss

dcgoss14@gmail.com derekgoss.com (919) 923-0553

EDUCATION

Cornell University, **College of Engineering** • Ithaca, NY — Aug 2018 – May 2022 Expected
Bachelor of Science, Engineering Physics — 3.551 GPA

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

EXPERIENCE

Cornell Racing (Formula SAE) — **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 ideal battery technology and cell layout for peak vehicle performance
- Manufactured a robust battery pack mounting system capable of withstanding accelerations of 40g in any direction
- Wired a high voltage charger to the battery management system and tuned charging profiles to optimize cell health
- Redesigned a weather-resistant sheet metal enclosure for the battery pack and critical electronics to simplify manufacturing and service processes, reduce weight, and improve thermal heat rejection

Virginia Tech Assistive Robotics Lab — **Blacksburg, VA**
Exoskeleton Design Intern — 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 (iOS app) — **Haverford, PA**
Creator — 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.

- Users can 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 enables users to keep their 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 contributions from cancer biologists, data scientists, designers, and open source volunteers
- Delivered lectures on containerized web deployment 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*)