Brendan Szuwalski

Mechanical Engineer

Personal Information

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www.linkedin.com/in/brendanszuwalski

Skills

3D and 2D Modeling — Advanced

Technical Drawings — Skilled

GD&T — Skilled

Leadership — Advanced

Material Analysis and Selection — Advanced

Parameter Driven CAD — Skilled

Skeleton Modeling — Proficient

Awards

Best Senior Design Project Winner, JHU Whiting School of Engineering, 2018 Design Day

2018 Student Leadership Award for Outstanding Contributions to Student Groups

JHU Dean's List: Spring 2018, Fall 2017, Spring 2017, Fall 2016, Spring 2016, Fall 2015

Talented Mechanical Engineer with strong background in Automotive Racing. Proven experience developing innovative mechanical and electromechanical systems, working in design teams and leading the engineering design process with work on electrical motor projects and complex innerwheel assemblies. For more information on my projects and work experiences please visit brendanszuwalski.com.

Work Experience

Sept 2018 – Present

Powertrain and Drivetrain Engineer

Formula Student Team Delft – Delft, Netherlands

- Led a team in developing a complex innerwheel suspension and transmission system
- Successfully developed a **traction envelope model** for **custom tires** to support selection of **custom motor** parameters
- Developed an **80kW** rated wiring system enabling communication between **4 motors**, **13 PCB's** and an **Accumulator**

Aug 2014 – Jun 2018

Team Captain, Team Member

JHU Blue Jay Racing – Baltimore, Maryland

- Led a team of 20 students focused on designing and building a single seat, off-road race car
- Implemented several structural changes, both as an engineer and as a leader, that continued in subsequent cars
- Planned and directed projects focused on improving areas such as vehicle drive-ability, manufacturing accuracy and predictive design

Jun 2018 – Aug 2018

Engineering Intern III

ThorLabs – Baltimore, Maryland

- Designed two **autonomous systems** that increased the production capacity of a clean room manufacturing line to over **1,000 laser chips** per day **from 200**, without requiring an increase in clean room size or staff

May 2016 – Aug 2016

Engineering Intern III

Maritime Applied Physics Corp – Baltimore, Maryland

- Designed Life Critical automated railing systems compliant with U.S. Naval Guidelines and an **Operational Readiness** rating of **97%**
- System capable of folding out of the way during deployment and recovery of towed UAV's
- Conceived and developed a self-diagnostic system to detect malfunctions in railing operation

Education

Sept 2018 – Jul 2020

MSc: Mechanical Engineering

Delft University of Technology – Delft, Netherlands

- Focusing on **Vehicle Engineering** with a specialization in **Materials**
- Thesis work on Polymer Composite Modeling

Sept 2014 – May 2018

B.S.: Mechanical Engineering

The Johns Hopkins University – Baltimore, Maryland

- GPA: 3.56/4.0