

# SCOTT BRENAMAN

- 222 SW Harrison St. Apt9C Portland, OR 97201 – (425)870-2007 cell – [sbrenaman@gmail.com](mailto:sbrenaman@gmail.com) -

## STUDENT: MECHANICAL ENGINEERING

### *MACHINE DESIGN / MOTORSPORTS ENGINEERING*

#### **Objective:**

Seeking a challenging motorsports engineering position to further my vehicle dynamics, machine design, and motorsports engineering knowledge in an organization committed to success.

#### **Career summary:**

A self-motivated engineering student with a passion for motorsports engineering, and a desire to work in a fast-paced industry where there is always room for improvement. Worked in the aerospace engineering automation industry for 6 years, until the last 2 years while I finished my Mechanical Engineering degree.

#### **Job Skills:**

- 2 years of leadership experience in Formula SAE.
- Ability to self-motivate, manage own schedule and provide deliverables on-time.
- Motivated by pride in own work, deadlines, and the drive to always do better.
- Project management skills, ability to lead, delegate, and negotiate.
- Conflict resolution skills.
- Ability to work under stressful situations.

#### **Other Skills:**

- Raced autocross with the SCCA, Bremerton Sports Car Club, and Western Washington Sports Car Council regularly from 2003-2007.
- Prepared and maintained my 1991 Acura Integra for SCCA class STS autocross during that time.
- Strong creative problem solving skills from an interest and training in art and graphic design.

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## PROFESSIONAL EXPERIENCE

### PORTLAND STATE FORMULA SAE

2009-Present

#### **Tire/Suspension Analysis and Design (2009-Present), Technical Director (2010-Present)**

Worked for 2 years to take a backmarker team from last place to a team-best 36<sup>th</sup> place in 2010 Formula SAE California. This was achieved by a fundamental mentality shift towards a team of dedicated engineering students with a commitment to excellence in the field of motorsports and mechanical engineering.

#### **Selected Achievements**

- Leading a team of 25 engineering students to ensure that our project is delivered on-time and to our team's standards.
- Use Matlab, Excel and OptimumT to create a non-dimensional Pacejka 2002 tire model for use in our Vehicle Simulation software (CarSim) and to help design the suspension/steering kinematics.
- Use Solidworks CAD software to model/analyze the suspension kinematics and design/package the uprights and suspension components.
- Use Solidworks Simulation Professional and ABAQUS Finite Element analysis software to apply the basic fundamentals of stress analysis to analyze and optimize components for the Formula SAE car.
- Create toleranced drawings off designed parts to be produced both in-house and at external suppliers.
- Worked with Word and PowerPoint to create coherent design process documents and presentations, intended to help disseminate information throughout the current and future teams, and sell the judges and potential investors on our project and designs.
- Worked to secure monetary, material and labor donations from companies across the United States to fundraise for the FSAE project.

**TEMCO, INC.****2010-Present****Engineering Internship**

Independent Contractor, designed products for the heavy trucking industry. Worked under little supervision to design products meeting strict customer and cost restrictions.

**Selected Achievements**

- Organized documentation and bills of materials to help create a systematic process for future orders of industrial parts washers.
- Designed a trailer kingpin lock to deter theft and accidental trailer couplings. Managed the project from concept to prototyping, including market research and a full cost-to-production analysis.

**ELECTROIMPACT, INC.****2004 – 2010****Mechanical Engineering Technician/Student Intern**

Responsible for assisting the mechanical engineers in the design and production of a wide range of projects, ranging from aerospace assembly automation to automated fiber placement machines.

**Selected Achievements**

- Implemented, distributed, and provided technical and usage support for Solidworks versions 2006-2010, along with PDM/PLM software packages PDMWorks and helped develop and beta test Keytech PLM Catia and Solidworks PDM Software.
- Assisted the project proposals department with creative solutions to problems with CAD models, to help secure future business.
- Worked with FARO laser large-scale 3D metrology tools to verify production drawings and to test machine/tooling accuracies.
- Took ownership of our trade-show booth and redesigned to more accurately sell our machines and products, and standardized our shipping/logistics procedures.
- Used machine shop tools and fabrication skills to produce/assemble parts and assemblies to specifications laid out in detailed part and assembly drawings.

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**EDUCATION / CERTIFICATIONS**

- **(In Progress) B.S. in Mechanical Engineering** - *Portland State University, Portland, OR – 2011*  
Relevant Electives/Activities: Advanced Finite Element Analysis, Independent Study: FSAE Upright Design, Applied Engineering Materials, Student Activities and Leadership Programs Advisory Board.
- **OptimumG 3-Day Vehicle Dynamics Seminar** – *Completed June 2010*
- **Associates of Science 2-Year Transfer Degree** – *Edmonds Community College, Lynnwood, WA – 2008*

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**PROFESSIONAL AFFILIATIONS**

- Society of Automotive Engineers
- American Society of Mechanical Engineering
- Sports Car Club of America