

Jeff Alperovich

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Purdue University

M.S. Mechanical Engineering, May 2018

B.S. Mechanical Engineering, Dec. 2015

Engineering

Complete portfolio with pictures available at rooski.co/portfolio

Rooski Innovations, LLC

Owner/Founder

May 2015–Present

- ME2Go: Mechanical Engineering Pocket Reference. Designed an educational app containing formulas and derivations crucial to students and professionals. Over 9200 downloads on iOS and Android in 14 months. Adapting the app to be used as a teaching tool in classrooms for undergraduate courses. Wrote all of the content in addition to creating informative diagrams and figures. Content includes over 310 pages covering 13 key subjects
- Solved interior convenience problems with the Acura NSX by marketing custom aftermarket products. Over 200 3D printed products sold.
- Provide engineering and product development consulting services

Kaleidoscope

Design Engineer Intern

May 2017–Present

- Developed and programmed a custom biomedical device to control 12 cooling modules of a wearable. Each module contains a fan, LED, and thermistor, achieving variable cooling using a thermoelectric cooler
- Prototyped a wearable feedback device to collect and measure sweat. Enabled accurate measurements for the device by designing a system to decouple armband tension from sensor pressure using Nitinol
- Programmed devices and created circuitry to log respiration, heart rate, temperature, and body movement
- Validated the durability of a consumer electronics product that moves a screen weightlessly by building and programming 8 test fixtures to run 1,000,000 cycles

Additional Leadership & Expertise

International Intercollegiate evGrand Prix

President, Mechanical Engineering Lead

Oct. 2012–May 2014

- Managed the participation of 22 teams and several contractors to ensure successful event operation at Purdue and the IMS
- Aided in the procurement of 600 new Boston-Power battery blocks
- Collaborated with Boston-Power engineers to test battery temperatures over various discharge rates and determine requisite cooling
- Designed battery configurations and aluminum battery enclosures to utilize the Boston-Power modules. Built and wired 7 battery packs that powered all Purdue karts in 3 weeks

Languages

- Native Russian, conversational German
- Programming: Python, C, LabVIEW, Visual Basic, and MATLAB

Purdue University

Head Teaching Assistant

May 2015–Present

- Lead the staff to instruct second year students through the mechanical engineering design, innovation, and entrepreneurship process
- 5 major papers on education and prototyping published in ASEE, JSET, CHI, IDETC, and ASME Journal of Mechanical Design. Published results include the positive effects of hands-on-design and prototyping activities on understanding and design language
- Created the Design for Additive Manufacturing Worksheet for novice/intermediate 3D printer users to improve the quality of rapid prototyped designs and reduce printing errors
- Taught creative engineering design and advanced CAD techniques to 120 senior level students in weekly 2-hour lab sessions for 2 semesters

Fiat Chrysler Automobiles

Product Development Intern

May 2016–Aug. 2016

- Collaborated with union mechanics in the Body Hardware Lab to design custom test procedures and perform routine testing
- Designed fixtures and test procedures for core development of new products designed for future vehicles
- Communicated with suppliers to purchase equipment and materials
- Correlated structural test results with CAE models as part of DFSS, identifying a 30% model error and resulting in CAE improvements
- Updated and modernized 20 lab work and testing procedures, improving lab efficiency through WCM techniques

Purdue Racquetball Club

Tournament Director, Club President, Advisor

Jan. 2013–Present

- Coordinated with 10 universities and over 250 players across the Midwest to host tournaments, including the State Championships
- Raised over \$10,000 in 2 years to cover all tournament and travel costs
- Reestablished the club as a competitive Club Sports team organization at Purdue through petitioning and presentations to the council

Skills

- Proficient in the use of multiple CAD packages: Solidworks, Autodesk Inventor, Creo Parametric, Catia, AutoCAD
- Used Adobe Illustrator to create engineering diagrams and figures
- Built and programmed electromechanical systems
- Completed projects and home renovations using manual tools and machinery, working with various woods and metals