DAVID GRIGGS

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Objective

Mechanical engineer seeking a collaborative role on a product design team with opportunities for needfinding, concept refinement, rapid electromechanical prototyping, 3D CAD, and design for manufacture.

Education

Massachusetts Institute of Technology, Cambridge, MA *Expected May 2021*

- Candidate for M.S. Mechanical Engineering, Product Design & Manufacturing, GPA 5.0

University of Virginia, Charlottesville, VA *Aug 2010 – May 2014*

- B.S. Mechanical Engineering with High Distinction
- Rodman Scholar: top 5% of Engineering School applicants, exclusive engineering design curriculum

Experience

Research Assistant at Mechanosynthesis Lab (Prof. A. John Hart), Cambridge, MA *Jul 2018 – present*

- Design and fabricate a 500W laser system with high-precision kinematic couplings for use in multiple Selective Laser Melting (SLM) applications.
- Integrate laser power and scanning galvanometer mirror controls within custom LabVIEW software.
- Design a custom high-pressure SLM apparatus and study the effects of pressure on SLM quality.

Electronics Design Consultant at ReadRead, Remote *Nov 2017 – May 2019*

- Improved Braille toy prototype from ~50% to 99+% successful tile recognition with a custom RFID array.
- Programmed user experience for children to learn letters, math, music, and simple programming logic.

Machine Design Consultant at Pantheon Steel, Farmington, MO *Dec 2016 – Jan 2017*

- Reduced press operation cycle time by 66% by augmenting a manual 50-ton press with digital ram actuation, ram position tracking, and hydraulic pressure sensing capabilities.
- Studied operator behavior/needs and designed a touchscreen GUI with Raspberry Pi 3 and Qt5.

Mechatronics Lead at Escape Room Live, Georgetown, DC *Feb 2016 – Dec 2016*

- Designed and built 50+ networked electronic props to craft an automated, interactive user experience.
- Programmed biometric scanners, capacitive sensors, load cells, RFID readers, electromagnets, LEDs, etc.

Machinery Engineer at ExxonMobil, Baton Rouge, LA *Jul 2014 – Nov 2015*

- Performed root cause analysis, oversaw repair and maintenance for $30M+ worth of rotating machinery.

Leadership

Mentor at MIT Makerworkshop, Cambridge, MA *Sept 2018 - present*

- Create a new training procedure for electronics workbench – soldering, heat shrink, power supplies, etc.
- Regularly train students in the safe, effective use of waterjet, mill, lathe, CNC router, hand tools, etc.

Instructor at Dept. of Mechanical Engineering (UVA), Charlottesville, VA *Spring 2013, Spring 2014*

Singing Steel: The Science of Caribbean Steelpan Making

- Designed a curriculum on scientific topics relevant to the steelpan art, e.g. work hardening, heat treatment.
- Led students in practicing every step of the process, from flat steel drum to curved musical notes.

Missionary at Church of Jesus Christ of Latter-Day Saints, East Germany *Aug 2008 – Aug 2010*

- Trained and mentored up to thirty fellow missionaries at a time.
- Organized service projects, taught stop-smoking and English classes, gave sermons.

Skills

Hardware Dev: Solidworks, Fusion 360, COMSOL, FEA/CFD, fabrication shop tools
Software Dev: MATLAB, LabVIEW, Arduino, RaspberryPi, C++, Qt5, HTML/CSS
Other: fluent German, Eagle Scout, cello & handpan & electronic musician, aspiring artist