Stanford, California
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Tim Samuelsen

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Graduating MS in Mechanical Engineering student specializing in mechatronics and smart product design. Applying my skills and experience to develop CLIP 3D printer controls software at the DeSimone Research Group. After graduation in March 2022, I plan to enter industry to contribute to solving impactful problems by leveraging innovative technologies.

Experience

Graduate Research Assistant **Jan 2021 — Present**
Stanford University Stanford, CA
DeSimone Research Group, Advanced Printer Concepts Team clip3dgui.readthedocs.io

- Software and embedded systems developer for 3 separate in-house developed advanced CLIP 3D printers. Implementing advanced and novel 3D printing techniques using C++ with the Qt framework for GUI implementation.
- Worked with team of researchers to tailor system and software for their research needs. The platform is currently being used to conduct research on high resolution and high speed 3D printing, development of recyclable polymers, and microneedles for vaccine deployment.

Research Assistant **Jun 2019 — May 2020**
Missouri University of Science & Technology Rolla, MO
Innovative Smart & Additive Manufacturing Lab & Laser-Aided Manufacturing Processes Lab

- Developed optical image analysis program using MATLAB and Python to quantify and measure microscopic pores within powder particles and microstructure properties of printed parts.
- Collected and analyzed samples to produce research data. Conveyed the results in presentations and technical reports.

Education

Master of Science, Mechanical Engineering, Stanford University **Sep 2020 — Mar 2022**
Mechatronics Depth Area, GPA: 3.95

Bachelor of Science, Mechanical Engineering, Missouri University of Science & Technology **Aug 2016 — May 2020**
Mechanical Design & Analysis Emphasis, Graduated *magna cum laude*

Skills

Programming Languages	C, C++, Python, MATLAB, Assembly
3D CAD & FEA	Siemens Nx, Ansys, SolidWorks
Tools & Technologies	KiCAD, Git, Jira Software, LabVIEW
Soft Skills	Teamwork, Problem Solving, Adaptability

Projects

Relay Robots Embedded Systems, Robot Autonomy, Signal Conditioning

Designed and constructed 3 robots with team to autonomously run a relay. Coded in C with hierarchical state machines that controlled PWM signals to DC motors for locomotion, IR based navigation and system operation. Full mechanical, circuit, and software design.

IoT based game platform Embedded Systems, Communication Protocol, IoT

Leveraged an ESP32 MCU to connect game controls, displays, and player interaction in an IoT manner. Developed self designed circuits and software, coded in C with PIC32 MCUs.

Activities

Varsity Swim Team Captain, Missouri University of Science & Technology **Aug 2018 — May 2020**
Member: 2016-2020, 2 x NCAA Champion, All American

Pi Tau Sigma, Mechanical Engineering Honor Society **Sep 2018 — Present**