--Personal Address Removed --
Cell --Removed-- Sam.E.Wright@utah.edu
Online at: http://www.telerobotics.utah.edu/index.php/People/SamWright http://www.linkedin.com/pub/sam-wright/7a/127/a20

Samuel Wright - MSME, EIT

Professional Assets

- Mechatronic design, development, and prototyping
- Over 10 years of hands-on Solidworks experience
- Real time control in C/C++ using PC DAQ, Ardiuino, and embedded Linux
- State-Space control system experience using Kalman filter state estimation
- Machine shop experience using WaterJet, CNC Mill, and CNC Lathe
- Experienced in SPC, AQL, and Six-Sigma in ISO900 and AS9100 environment
- Worked in, and contributed to, interdisciplinary teams

Relevant Experience

1/2017-current | Sarcos Robotics | Salt Lake City, UT

Mechanical Engineer - 2

- Exoskeleton kinematic suit development
- Multi-function rotary actuator design and testing

10/2015-1/2017 | Janicki Industries | Layton, UT

Automation – Machine Ops Engineer

- Provide automation support to production facility
- Develop new processes extending metrology and machine capabilities
- Analyze existing systems for continuous process improvements
- Provide analysis for future capital investments, including custom machine design
- Major projects I've provided direct support to:
  - F35 Joint Strike Fighter
  - Boeing CST-100 Starliner
  - Bigelow Aerospace

Freelance Consulting

Tactical Haptics – (4/2015-9/2015)

- Mechatronic design iteration of next generation haptic interface for virtual reality, gaming, medical training, robotic surgery applications, etc
- Create drawing packages for manufacturing and assembly

Utah TVC start-up – (5/2015-6/2015)

- Prototype new low-cost insufflation device for use in remote hospitals and developing nations

9/2014-10/2015 | Passive-Logic | Brighton, UT

Engineer - Programmer

- Develop building and HVAC equipment simulation software in C
- Develop real-time and heuristically optimized control system in C

5/2012-9/2014 | University of Utah | SLC, UT

Graduate Research Assistant

- Master's thesis research
  - Design, construct and analyze a three degree-of-freedom mechatronic device that rotates a spherical, permanent magnet for the control of remote magnetic devices
- Instructed undergraduate Solidworks lab
- Developed and instructed high school robotics summer camp courses

5/2011-5/2012 | University of Utah | SLC, UT

Undergraduate Research Assistant

- Designed and constructed research apparatuses -
  - Tactile finger-tip sensitivity measurement system

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Samuel Wright - MSME, EIT

- Silicone pour-mold for shoe-integrated sensor insoles

9/2009–4/2011 NAMMO Composite Solutions Murray, UT

Quality Engineer

- Facilitated ISO9000 and AS9100 Certification
- Familiar with ASME Y14.5 Geometric Dimensioning & Tolerancing
- Created and managed Document Control database
- ROMER CMM operation (PCDMIS Certified)

Education

2012 – 2014 University of Utah SLC, UT

Master of Mechanical Engineering (3.7 GPA)

2011 NCEES SLC, UT

Fundamentals of Engineering Exam (EIT)

2006 - 2012 University of Utah SLC, UT

Bachelor of Mechanical Engineering (3.0 GPA)

Awards and Recognition

- Fully autonomous robotic entry to the 2012 Trinity College's RoboWaiter Firefighter Competition won multiple awards in, including the "Spirit of the Inventor" award for design.
- Semi-autonomous remote-controlled robotic entry to the 2011 University of Utah Roboball competition was selected to represent Dept. of Mechanical Engineering at the National Advisory Committee.

Publications

- S. E. Wright, A. W. Mahoney, K. Popek, and J. J. Abbott, "*The Spherical-actuator-magnet Manipulator: A Permanent-magnet Robotic End-effector*", IEEE T-RO, 2017
- A. W. Mahoney, S. E. Wright, and J. J. Abbott, "*A Spherical-magnet End-effector for Robotic Magnetic Manipulation*" ICRA 2015
- S. E. Wright, "*A Singularity-Free Mechanism For Holonomic Orientation Control of a Spherical Permanent Magnet*", University of Utah Master's Thesis, 2014
- A. W. Mahoney, S. E. Wright, and J. J. Abbott, "*Managing the Attractive Magnetic Force between an Untethered Magnetically Actuated Tool and a Rotating Permanent Magnet*" IEEE Int. Conf. Robotics and Automation, pp. 5346-5351, 2013

Patents

- A. W. Mahoney, S. E. Wright, and J. J. Abbott, "*A Spherical Mechanism for Magnetic Manipulation*"

Skills

- **Programs:** Solidworks, ANSYS, Adobe, Office
- **Languages:** C/C++ , Python, Matlab, Qt
- **Platforms**: Linux,Windows, Mac, Arduino, dsPIC
- **Control Techniques:** Classical, State-Space, Kalman Filter