

Michael Kokko

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Overview

Design engineer with hands-on electromechanical skills, project management experience, and a passion for developing innovative technologies that positively impact the lives of others

Technical Skills

- Technical project management; team leadership from planning through execution, verification/validation, and delivery
- Mechanical system design involving electric and hydraulic actuation, power transmission, bearing selection, and seal design with emphasis on manufacturability and assembly
- Extensive knowledge of design software including SolidWorks, MATLAB/Octave, basic structural FEA and dynamic simulation
- Broad mechanical fabrication experience: precision manual milling and turning, CNC machining, welding, brazing, and plasma cutting; working knowledge of injection molding, rapid prototyping, industrial robotics, and CMM inspection
- Electrical prototyping involving analog and digital circuit design, embedded system development, PCB layout, serial communication, and circuit analysis using oscilloscope and other standard test equipment
- System integration, wiring, and troubleshooting/resolution of electromechanical issues
- Device-level and object-oriented programming in C/C++ with knowledge of Java, Perl, and Python; adept at most general computing tasks under both Windows and Linux environments
- Professional communication including written and oral presentation of technical design information and analyses

Relevant Experience

- **Senior Systems Integration Engineer – Simbex, LLC – Lebanon, NH** **2011 – 2016**
 - Managed engineering teams developing innovative medical devices and advanced personal protection systems
 - Led technical development of low-cost blast and ballistic impact sensing systems for the US Army
 - Designed and fabricated complex electromechanical systems and production fixtures
 - Evaluated, integrated, and tested sensor technologies for use in functional prototype systems
 - Recruited, interviewed, and mentored engineering interns and co-op students
 - Represented Simbex on the NPUAP ANSI/RESNA Support Surface Standards development committee
 - Maintained metalworking shop (manual mill, lathe, etc.); educated employees on machining safety and technique
 - Administered company-wide use of SolidWorks software; implemented PDM server and network license management
- **Robotics Engineer – Vecna Technologies, Inc. – Cambridge, MA** **2007 – 2011**
 - Led hardware design, development, and maintenance for Battlefield Extraction-Assist Robot (BEAR) leg modules
 - Designed, prototyped, and evaluated numerous electric- and hydraulic-powered robotic systems
 - Conceptualized, designed, and manufactured novel hardware for industry-leading medical check-in kiosks
 - Established vendor relationships and supported implementation of high-volume kiosk production processes
 - Contributed to product concept development and several successful SBIR grant proposal efforts
- **Research Assistant – MIT Marine Robotics Lab – Cambridge, MA** **2005 – 2007**
 - Improved Autonomous Underwater Vehicle (AUV) control/efficiency through structure design and styling
 - Proposed and verified sonar-based navigation algorithms through simulation and experimentation
 - Conducted vehicle testing and data analysis for local and international field trials
- **Undergraduate Researcher – RPI Flexible Manufacturing Center – Troy, NY** **2003 – 2005**

Education

- **Doctor of Philosophy in Engineering Sciences (in progress) – Dartmouth College** **2016 – present**
- **Master of Science in Mechanical Engineering – Massachusetts Institute of Technology** **2007**
 - GPA 4.8/5.0; concentration in classical control of electromechanical systems
 - Master's Thesis: "Range-based Navigation of AUVs Operating Near Ship Hulls"
- **Bachelor of Science in Mechanical Engineering – Rensselaer Polytechnic Institute** **2005**
 - GPA 4.0/4.0; concentrations in mechatronics and manufacturing

Service

Dartmouth-Hitchcock Medical Center Emergency Department volunteer (2011-2016), MIT Outing Club trip leader (2005-2014), FIRST Robotics mentor (2010)

Interests

Running, hiking, Nordic skiing, cycling, building/repairing machines, developing assistive devices

Patents

US 8739820 B1 "Pressure Relief Valve" (2014)