

# Thomas R. Nabelek

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## Objective

To establish my candidacy for a career-oriented position in which I will be able to exercise practical and purposeful application of my knowledge and expertise working at the intersection of hardware and software. I enjoy developing embedded systems and designing devices to interact, make decisions, and act upon those decisions.

## Education

- Master of Science in Computer Engineering, University of Missouri–Columbia May 2018  
• GPA: 3.6
- Bachelors of Science in Computer Engineering and Electrical Engineering, University of Missouri–Columbia May 2016  
• Math and Computer Science minors • *cum laude*, GPA: 3.52 • Passed the Fundamentals of Engineering (FE) exam
- Certificate for Embedded Systems course completion, University of Colorado Boulder July 2017

## Proficiencies

- Embedded system development; integration of sensors and actuators with microcontroller devices; device prototyping; experience with different CPU architectures
- PLC ladder logic and devices; controls automation
- Experience with: programming/scripting and algorithm development using languages including C, C++, Ruby, Python, Matlab, Assembly Language, VHDL, Swift; intertask communication, network communication, multithreading, realtime processing, etc.; ROS; networking protocols; UNIX command line; Linux systems; GNU toolchain; documentation
- Breadboard circuit and PCB design and construction, circuit analysis using Cadence PSpice, and experience with lab test equipment including oscilloscopes, power supplies, signal generators

## Research Experience

- Ball Aerospace 2018-Present  
*Embedded Software Engineer*
- Computational Intelligence Research Laboratory, University of Missouri 2016-2018  
*Graduate Research Assistant*
- Working on an Office of Naval Research project doing feature extraction and image segmentation on synthetic aperture sonar imagery for the purpose of mine detection
  - Presented a conference paper and completed a Master's research thesis: "Fractal Analysis of Seafloor Textures for Target Detection in Synthetic Aperture Sonar Imagery"
- NASA Langley Area Research Center 2017  
*Computational Engineering Intern*
- Worked as a member of the High Performance Computing (HPC) Incubator to demonstrate the use of HPC methods on computationally-intensive portions of mission codes
  - Educated researchers on the use of HPC methods for efficient computational problem solving
- Lawrence Livermore National Laboratory 2015  
*Computational Engineering Intern*
- Accelerated the solving of electromagnetic field problems by optimizing matrix-vector multiplication code for GPU devices using CUDA
  - Presented "Using GPUs to Accelerate the Solving of Electromagnetic Field Problems" poster
  - Gained experience in a high-security facility
- Networking and Parallel Systems Lab, University of Missouri 2013-2015  
*Undergraduate Researcher*

## Collegiate Activities

Newman Volunteer Corps, 2014-2018  
Engineers Without Borders, 2012-2016, President  
Mizzou Engineering Ambassadors, 2014-2016

## Collegiate Awards

Dean's List, 2013-2016  
Lloyd E. Hightower Scholarship, 2015  
2nd place, IEEE Computational Intelligence Society poster contest, 2014  
Bright Flight Scholarship, 2012-2015  
Curators Scholar Award, 2012-2015