

Casey T. Morris

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EDUCATION

UNIVERSITY OF WISCONSIN-MADISON

Master of Science in Electrical Engineering, GPA: 3.8/4.0

Madison, WI

May 2016

UNIVERSITY OF NOTRE DAME

Bachelor of Science in Electrical Engineering Magna Cum Laude, GPA: 3.800/4.000

Notre Dame, IN

May 2014

EXPERIENCE

RAYTHEON (DoD Clearance: Secret, Active)

Various, USA

Member, Rotational Engineering Leadership Development Program (RELDLP)

Current Rotation: Digital Force Technologies – San Diego, Firmware Engineer November 2017-Present

- Development of FW for communication between proprietary systems and Sony, Canon, and Hitachi cameras
- Schematic design and PCB layout for digital video processing, networking, and power management designs
- Program lead overseeing product from design through production, customer management and integration effort

Second Rotation: RMS – Tucson, Software Engineering Center March 2017-November 2017

- Create and implement software services for real-time embedded application utilizing SCRUM Agile Framework
- Primarily responsible for design of guidance, telemetry, and payload delivery functionality using RTI DDS
- Software team representative for various non-Raytheon vendors, leading sub-system integration and test efforts

First Rotation: SAS - El Segundo, Hardware Engineering Center June 2016 - March 2017

- Develop and verify PWB layout guidelines through signal and power integrity analysis on various programs
- REA for module test, overseeing test procedures, training, and troubleshooting of production hardware

WISCONSIN ELECTRIC MACHINES & POWER ELECTRONICS CONSORTIUM

Madison, WI

Graduate Student/Research Assistant

September 2014-May 2016

- Developed novel three phase inverter topology to reduce common mode EMI in motor drives using WBG devices
- Performed analytical calculations, simulations, schematic capture, PWB design, build and test for whole system

IBM

Essex Junction, VT

Product Engineering Intern

May 2013-August 2013

- Collaborated with team to devise advanced methods to analyze scan chain paths and locate production failures
- Created automated software tools to interface with DB2 databases to summarize test data in real time

CARDINAL HEALTH

Dublin, OH

IT Intern, Java Application Developer

May 2012-July 2012

- Enhanced problem solving skills through development of complex application to automate resending invoices

EXTRACURRICULAR PROJECTS

Web Application Development, College Football Analytics (Personal Project)

Spring 2016-Present

- Created an analytical model to rank college football teams and to predict game scores based on past performance
- Designed a web application where users predict CFB game results, competing against the predictive model

Automated Lighting and RFID Locking System (Two Member Personal Project)

Fall 2015-Spring 2016

- Created an Arduino based locking and lighting system using IR & RFID receivers, servo motors, relays, etc.
- Designed PCB daughter layout, developed control system, and implemented project in personal apartment

Semi-Autonomous Robot for Sewer Exploration (Four Person Team, School Project)

Fall 2013-Spring 2014

- Designed a remote controlled robot with live video feed, incorporating IR sensors, accelerometers, DC motors
- Developed communication protocol, motor drive control, microcontroller (PIC32, RPi) firmware, and UI

LEADERSHIP & SERVICE

Board Member, UW-Madison ECE Graduate Student Association

Fall 2014-Spring 2016

- Serve as intermediary between graduate students and ECE department faculty on a broad range of issues

Volunteer, Community Service

Fall 2010-Present

- Active in local community aid groups, soup kitchens, food pantries, after school programs, etc.

SKILLS

Technical: Windows, Mac, and Linux OS, Microsoft Office, MATLAB/Simulink, C, C++, Python, Java, HTML, SQL, Groovy, Bash, Altium Board Designer, LTSpice, Mentor Graphics Xpedition, HyperLynx, Microcontrollers, Oscilloscopes, Spectrum Analyzers, SPI and I²C Protocols, Python Web Frameworks, Git, SVN, Agile Frameworks

SELECTED PUBLICATIONS*

**Fifteen other publications in IEEE journals and proceedings*

[1] C.T. Morris, D. Han, and B. Sarlioglu, "Reduction of Common Mode Voltage and Conducted EMI Through Three Phase Inverter Topology," *IEEE Transactions on Power Electronics*, vol. 32, no. 3, pp. 1720-1724, 2017.

[2] C.T. Morris, D. Han, and B. Sarlioglu, "Comparison and Evaluation of Common Mode EMI Filter Topologies for GaN-Based Motor Drive Systems," in *Proc. Applied Power Electronics Conference (APEC)*, Long Beach, March 20 – 24, 2016. (Won Best Presenter Award)