William L Spies

SENSORS, INTERFACES, ROBOTICS
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WORK EXPERIENCE

ATS Automation Lewis Center, OH

Systems Project Engineer // Feb 2017 – Aug 2017

- Managed team of 12 systems programmers with more than 100 collective years of PLC & HMI programming experience.
- Responsibilities included building project task lists, designing high-level controls architecture for project in formative stages, assigning manpower resources, and coordinating with other engineering disciplines.
- Performed labor estimation (scope up to 10,000 man-hours) and advisement on standards compliance on new applications for engineering sales department.
- Developed systems engineering training schedule to promote skills development within the systems department.
- Designed, commissioned, and outfitted new vision lab to facilitate prototyping machine vision applications for automation purposes.

Systems Design Engineer // Sept 2015 - Feb 2017
Laser Safety Officer // April 2016 – Aug 2017

- Designed and validated system architecture, final machine control code, and human-machine interfaces as lead programmer for several projects.
- Programmed and validated Fanuc industrial robots in material handling and machine vision applications.
- Coordinated project schedule, task lists, and action items between team members.
- Handled matters of safe laser integration, operation, and maintenance through authoring workspace policies and performing optical calculations on Class 3/Class 4 lasers.

Electrical Design Engineer // June 2012 - Sept 2015

- Designed, reviewed, and procured electrical hardware for custom-built automated industrial manufacturing systems.
- Experience spans high and low voltage power distribution, servomotor control, analog and digital sensing, precision measurement, and operator safety systems.
- Served as technical lead engineer for multiple systems with electrical budgets up to $2 million USD.
- Experienced in applications of NFPA 70E (NEC) and IEC standards to design and build efforts.

L-3 Communications Cincinnati Electronics Mason, OH

Hardware Design Engineer // 2009 - 2011 (Co-op)

- Performed circuit design of telemetry interfaces for space launch vehicle control systems.
- Supported development of experimental MEMS components in formal lab environment.
- Led formal evaluation of next-generation integrated CAD / parts management software suite for organizational adoption.
- Assisted with verification and documentation of FPGA architecture for First Stage Avionics Subsystems (FSAS) destined for the Alliant Techsystems “Ares” launch vehicles.

EDUCATION

University of Cincinnati
B.S. in Electrical Engineering, Class of 2012
Minor in Photonics

Primary focus included FPGA, microcontroller, solid-state electronics design, and optical communication.

Secondary focus included microwave communication, semiconductor physics, thermodynamics, and orbital mechanics.

Technical involvement in IEEE (UC Chapter); College of Engineering Tribunal.

Involved in community service and leadership development at the Center for Community Engagement.

Northwestern University
M.S. in Robotics, 2017 – 2018 Cohort
Expected to Graduate in Q3 2018

Graduate project focus involves multi-robot systems, novel robotic manipulation methods, sensor networks, and machine learning.

Areas of interest include aerospace applications, multi-robot coordination and communication, sensor networks, and human-machine interfaces, and applications of machine learning and artificial intelligence to the domains of robotic control and coordination.

RELEVANT SKILLS

Python
ROS
Linux (Ubuntu 16.04 LTS)
MathCAD
Git

ePlan Electric P8
AutoCad Electrical
Altium Designer
Rockwell RSLogix5000
Rockwell FactoryTalk
Linear Tech. LTSPICE

Fanuc Robot HandlingTOOL
Fanuc Robot iRVision

Visio
Word
Excel
PowerPoint

Adobe Illustrator

References Available Upon Request