Robert G. Cofield

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Education

Auburn University Auburn, AL, U.S.A. • Bachelor of Science in Mechanical Eng., May 2013
Cumulative GPA: 3.58/4.00

Mechanical Engineering CAD · Modelling and Control of Dynamical Systems · FEA · Mechatronics Mechanics of Materials · Machining · Microcontroller Programming · Signal Conditioning and Processing · Sensor Calibration

Mathematics Multivariable Calculus · Linear Algebra · Numerical Analysis · Differential Modelling System Identification and Characterization

- Investigated robotic leg mechanism design for honors contract course credit. Modelled kinematics and dynamics of twelve-bar Jansen linkage to evaluate load transportation potential.
- Continued development of teamwork skills thoughout numerous successful group projects.
- Honed communication skills during course in public speaking.
- Extended metal working experience during machine shop certification.

Work History

GPS and Vehicle Dynamics Laboratory (May 2012 - Present)
Assistant Researcher

- Designed and implemented data bridge between two message passing architectures for flexible, robust error calculation and visualization of multiply derived position solutions. Optimized algorithm through real-time testing in fully instrumented vehicle.
- Wrote GPS reciever interface and integrated with existing systems. Devised and carried out performance tests which experimentally compared new receiver to benchmark specifications.
- Created an efficient graphical user interface to aid vehicle drivers in path fidelity and collision avoidance during low-visibility caravanning scenarios.
- Trained coworkers in lighweight robotic operating systems while programming pointcloud-based waypoint identification functionality for miniature autonomous ground vehicle.

Fargason Contracting, Inc (May 2009 - January 2010)
Assistant to Licensed Contractor and Electrician

- Trained in operating and maintaining an extensive array of heavy machinery and power tools.
- Learned equipment and chemical safety procedures in both industrial and residential settings.

Skills and Relevant Experience

- C++, Python, MATLAB, Linux shell scripting, LaTeX
- ROS, MOOS, Solid Edge, ANSYS
- Repaired and tuned a cluth-actuated, rear wheel differential steering system on commercial mower with trailer dynamics, drawing on experience with zero-point-turn vehicle behavior.

Honors and Awards

- Spirit of Auburn Founder's Scholarship
- ConocoPhillips Mechanical Engineering Scholarship
- Dean's List, Fall 2009 - Summer 2011
- Tau Beta Pi Engineering Honor Society
- Pi Tau Sigma Mechanical Engineering Honor Society
- Auburn University Linux Club