David W. Hodo

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Education

M.S., Electrical Engineering, August 2007 (Expected); GPA: 4.00
Auburn University, Auburn, AL

B.E.E., Electrical Engineering, December 2005; GPA: 3.91; *Summa Cum Laude*
Auburn University, Auburn, AL
Minor: Business Engineering Technology
Minor: Computer Science

Professional Experience

Graduate Research Assistant (Master's degree) — **Auburn University**
GPS and Vehicle Dynamics Laboratory

Apr 2006 – Present: Principal engineer developing unmanned, self-guided robotic system that automatically maps locations of unexploded buried ordnance (e.g. bombs and mines). Developed automatic control system so that sensors towed by the robot accurately follow a specified path, based on Global Positioning System (GPS) integrated with other guidance sensors.

Jan 2006 – Apr 2006: Designed automatic control system for an unmanned, self-guided all-terrain vehicle (ATV). Researched automatic control algorithms and many types of motion paths used by autonomous vehicles.

Intern — **Northrop Grumman**
Space Technology — Warner Robins, GA

June 2005 – August 2005: Assisted in the development of a database driven hardware-in-the-loop simulation system. Developed a graphical user interface so that the simulation system can be easily and quickly configured for different aircraft and sensor configurations.

Undergraduate Research Assistant — **Auburn University**
Materials Processing Center

Aug 2004 – May 2005: Designed a computer based user interface for an experiment to be flown on the International Space Station. Provided electronics support for various projects. Designed and built a microcontroller based stepper motor speed controller and user interface.

Key Skills

- Leadership and cross-functional teamwork skills learned through AU Business Engineering Technology minor
- Software: Windows, Linux, MATLAB, PSPICE, LaTeX
- Computer Languages: C, C++, Visual Basic 6 and .NET, VHDL, SQL

Honors and Activities

- Auburn University Outstanding Graduate Student Award - 2007
- Eta Kappa Nu (HKN) – Electrical Engineering Honor Society.
- Tau Beta Pi (TBII) – National Engineering Honor Society.
- IEEE (Student Member) – Institute of Electrical and Electronic Engineers

Publications

D. Hodo, J. Y. Hung, D. M. Bevly, S. Millhouse, "Linear Analysis of Trailer Lateral Error with Sensor Noise for a Mobile Robot-Trailer System." Accepted for presentation, and will appear in *Proceedings of the 2007 IEEE International Symposium on Industrial Electronics*, Vigo, SPAIN, June 2007.

D. Hodo, J. Y. Hung, D. M. Bevly, S. Millhouse, "Effects of Sensor Placement and Errors on Path Following Control of a Mobile Robot-Trailer System." Accepted for presentation, and will appear in *Proceedings of the 26th Annual American Controls Conference*, New York City, July 2007.