

Sterling Anderson

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EDUCATION

- Massachusetts Institute of Technology**, Cambridge, MA
MS Mechanical Engineering *GPA: 4.9 / 5.0* *June 2009*
- MIT Lean Aerospace Initiative Academy**, Cambridge, MA *Jan. 2009*
- Brigham Young University**, Provo, UT
BS Mechanical Engineering, Minor Mathematics *GPA: 4.0 / 4.0* *Aug. 2007*

EXPERIENCE

- MIT Robotic Mobility Group** – Research Assistant *Sept. 2007-Present*
- Developed a novel planning and control framework for motion planning, threat assessment, and shared-adaptive or autonomous control of passenger vehicles – patent pending
 - Successfully implemented this framework on a test vehicle at Ford's Dearborn Development Center
- Scalable Display Technologies** – Market Analyst *Feb. - June 2008*
- Devised a market-launch strategy to strategically position this startup's disruptive display technology
- BYU Compliant Mechanisms Research Group** – Research Assistant *Sept. 2006 – Aug. 2007*
- Designed a fully-compliant, bistable acceleration sensor capable of Radio Frequency Identification (RFID) for acceleration-sensing and shock-history applications
 - Invented a damped ortho-planar spring that offers significant size and performance advantages when compared to traditional spring-damper systems – won ASME design award
- The Boeing Company** – Engineering Intern *June – Aug. 2006*
- Developed a design process that reduces standard tool redesign by 80% by integrating tool design, stress analysis, and model generation – process still in use today
 - Redesigned tooling for a new aircraft derivative, achieving full manufacturing process compatibility with minimal infrastructure modification
- BYU Friction Stir Research Laboratory** – Research Assistant *Jan. 2005 – Aug. 2007*
- Discovered feasible process configurations for Friction Stir Welding (FSW) of austenitic alloys used in defense, aerospace, and automotive industries
 - Led a team to characterize post-FSW mechanical properties as a function of process parameters

LEADERSHIP AND AWARDS

Leadership

- *MIT VentureShips Organizing Committee* *June 2008 – Dec. 2008*
Directing technology strategy collaborations between students and early-stage startup companies
- *MIT Science and Engineering Business Club (SEBC) Executive Board* *Feb. 2008 – Jan 2009*
Directing informational and networking events related to technology and entrepreneurship
- *Ecuador, Guayaquil South Mission* *Aug. 2002 – Aug. 2004*
Trained, directed, and coordinated 180 volunteer representatives in Southern Ecuador

Awards

- *Academic*: 2008 ASME International Design Engineering Technical Conference best compliant mechanism design; 2007 National Defense Science and Engineering Graduate (NDSEG) Fellow; 2007-08 Tau Beta Pi Fellow; 2006 Barry M. Goldwater Scholar; 2006 Tau Beta Pi Record Scholar; 2006 Karl G. Maeser Scholar
- *Professional*: Pride at Boeing Award – for exemplary contribution to the 787 rudder tool
- *Other*: Eagle Scout

SKILLS

Language: Fluent in Spanish – oral and written

Communication: Skilled writer, communicator, and presenter – talented at framing information clearly, concisely, and in accordance with audience background, function, and expectations

Computer: Modeling: ADAMS, Catia v5, Unigraphics NX 2-3.0, Solid Works, Mastercam v8

Programming and Analysis: Matlab, Simulink, C++, LabView, Visual Basic, ANSYS

Office Tools: Excel, Word, Power Point, Outlook

Publications

- Anderson, S.J, Peters, S.C., Pilutti, T.P., Iagnemma, K.D., "An Optimal-Control-Based Framework for Trajectory Planning, Threat Assessment, and Semi-Autonomous Control of Passenger Vehicles in Hazard Avoidance Scenarios," *International Journal of Vehicle Autonomous Systems*, (accepted for publication).
- Anderson, S.J, Peters, S.C., Pilutti, T.P., Iagnemma, K.D., "A Unified Approach to Semi-Autonomous Control of Passenger Vehicles in Hazard Avoidance Scenarios," *Proceedings of the 2009 International Conference on Systems, Man, and Cybernetics*, October 2009, San Antonio, TX (in press).
- Anderson, S.J, Peters, S.C., Pilutti, T.P., Iagnemma, K.D., "Design and Development of an Optimal-Control-Based Framework for Trajectory Planning, Threat Assessment, and Semi-Autonomous Control of Passenger Vehicles in Hazard Avoidance Scenarios," *Proceedings of the 14th International Symposium on Robotics Research*, August 2009, Lucerne, Switzerland (in press).
- Anderson, S.J, Peters, S.C., Pilutti, T.P., Iagnemma, K.D., "Experimental Study of an Optimal-Control-Based Framework for Trajectory Planning, Threat Assessment, and Semi-Autonomous Control of Passenger Vehicles in Hazard Avoidance Scenarios," *Proceedings of the 7th International Conference on Field and Service Robotics*, July 2009, Cambridge, MA.
- Anderson, S.J, "A Unified Framework for Trajectory Planning, Threat Assessment, and Semi-Autonomous Control of Passenger Vehicles," Master's Thesis, Massachusetts Institute of Technology, 2009.
- Anderson, S.J., Jensen, B.D., "Viscoelastic Damping of Ortho-Planar Springs," *Proceedings of ASME 2008 International Design Engineering Technical Conferences*, August 2008, Brooklyn, NY.
- Anderson, S.J., Segrera, D.J., Nelson, T.W., "Friction Stir Welding of X-65 Steel," *Friction Stir Welding and Processing IV*. 2007 TMS Annual Meeting, Orlando, FL.
- Anderson, S.J., Segrera, D.J., Downs, T., McEuen, S., "Friction Stir Welding of X-65 Steel," *2006 CFSP annual IAB Meeting*, October 2006, Rapid City, SD.
- Anderson, S.J., Nelson, B.D., Segrera, D.J., and Pew, J.W., "Friction Stir Welding of X-65 Steel," *2005 CFSP annual IAB Meeting*, October 2005, Rapid City, SD.
- Anderson, S.J., Nelson, B.D., Segrera, D.J., and Pew, J.W., "Friction Stir Welding of Alloy 718," *2005 CFSP annual IAB Meeting*, October 2005, Rapid City, SD.