Davin K. Swanson 711 Briarvista Way Atlanta, GA 30329 404-321-9071 <u>gt6032c@mail.gatech.edu</u> http://www.imdl.gatech.edu/davin

challenging and rewarding environment open to personal growth and advancement		
 Georgia Institute of Technology, Atlanta, GA Doctor of Philosophy in Mechanical Engineering Advisor: Dr. Wayne J. Book Concentration in passive (human-powered) robotics, control of unconventionally actuated systems, simulation and implementation of control systems Dissertation Title: Implementation of Arbitrary Path Constraints using Dissipative Passive Haptic Displays Minor area in Human-Machine Interfaces; coursework in Engineering Psychology, Dynamic System Modeling and Simulation, Statistics 	Apr 2003 GPA: 3.6/4.0	
 Georgia Institute of Technology, Atlanta, GA Master of Science in Mechanical Engineering Advisor: Dr. Wayne J. Book Automation and Mechatronics focus, Robotics concentration Thesis title: Dynamic Simulation of an Improved Passive Haptic Display Relevant coursework: Classical Control, Digital Control, Nonlinear Control, Optimal/Robust Control, Advanced Dynamics, Machine Vision, Embedded Systems 	Jun 1999 GPA: 3.5/4.0	
 Georgia Tech Lorraine, Metz, France Ecole Nationale Supèrieure d'Arts et Métiers (ENSAM), Paris, France ENSAM Mechanical Engineering Certificate Program Studied for one quarter at the European campus of Georgia Tech Completed five-month robotics research project at one of France's top engineering schools 	Jan 1998 - Aug 1998	
 Georgia Institute of Technology, Atlanta, GA Bachelor of Mechanical Engineering, Cooperative Plan Graduated with Highest Honor. Dean's List 10 out of 11 quarters enrolled Mechanical system and design track Elective coursework: Mechatronics, Computer-Aided Design 	Jun 1997 GPA: 3.7/4.0	
 Technical: System and sensor integration; classical and digital control system desig implementation; ability to quickly develop, learn and apply new control theories; m simulation of dynamic systems; system identification; robot dynamics design and artime system design and programming; microcontroller fundamentals Very effective in team environments in both leader and support roles. Undergraduat graduate coursework was heavy in team projects and labs. Graduate research exper a research group ranging from 6 to 14 people requiring independent corroboration a cooperation between both students and faculty advisors Strong technical writing, oral presentation and teaching skills Fluent in French Computer related: MATLAB/SIMULINK, C/C++, QNX RTOS, LabVIEW, Motored 	a; classical and digital control system design and op, learn and apply new control theories; modeling and dentification; robot dynamics design and analysis; real- icrocontroller fundamentals ooth leader and support roles. Undergraduate and projects and labs. Graduate research experience within ople requiring independent corroboration and aculty advisors on and teaching skills K, C/C++, QNX RTOS, LabVIEW, Motorola 68HC11,	
	 challenging and rewarding environment open to personal growth and advancement Georgia Institute of Technology, Atlanta, GA Doctor of Philosophy in Mechanical Engineering Advisor: Dr. Wayne J. Book Concentration in passive (human-powered) robotics, control of unconventionally actuated systems, simulation and implementation of control systems Dissertation Title: Implementation of Arbitrary Path Constraints using Dissipative Passive Haptic Displays Minor area in Human-Machine Interfaces; coursework in Engineering Psychology, Dynamic System Modeling and Simulation, Statistics Georgia Institute of Technology, Atlanta, GA Master of Science in Mechanical Engineering Advisor: Dr. Wayne J. Book Automation and Mechatronics focus, Robotics concentration Thesis title: Dynamic Simulation of an Improved Passive Haptic Display Relevant coursework: Classical Control, Digital Control, Nonlinear Control, Optimal/Robust Control, Advanced Dynamics, Machine Vision, Embedded Systems Georgia Tech Lorraine, Metz, France Ecole Nationale Supèrieure d'Arts et Métiers (ENSAM), Paris, France ENSAM Mechanical Engineering Certificate Program Studied for one quarter at the European campus of Georgia Tech Completed five-month robotics research project at one of France's top engineering schools Georgia Institute of Technology, Atlanta, GA Bachelor of Mechanical Engineering, Cooperative Plan Graduated with Highest Honor. Dean's List 10 out of 11 quarters enrolled Mechanical System and design track Elective coursework: Mechatronics, Computer-Aided Design Technical: System and sensor integration; classical and digital control system desig implementation; ability to quickly develop, learn and apply new control theories; m simulation of dynami	

Work Experience	 Georgia Institute of Technology, Atlanta, GA Graduate Research Assistant Performed research under faculty advisor Dr. Wayne Book in the field of passive haptic robotics on an NSF funded research project Responsible for analysis and control system design of an existing passive human-powered robotic manipulator; design and implementation of novel methods of control; design and implementation of experiments to determine relative efficacy of control systems; human factors evaluation using human subjects 	Jun 1997- Aug 2000/ Aug 2001- Present	
	 Gulfstream Aerospace Corporation, Savannah, GA Engineering Co-Op, 7 quarters Worked within different teams each quarter on a major aircraft design program. Involved in product design and testing, propulsion system modeling, aircraft acoustic and vibration testing, crew and equipment design, airframe stress analysis, project scheduling/management (TQM methods), and manufacturing defect tracking for quality analysis (QA) 	Mar 1993- Jun 1996	
Teaching Experience	 Georgia Institute of Technology, Atlanta, GA Graduate Teaching Assistant Teaching assistant for ME3056 Experimental Methodology, an undergraduate mechanical engineering laboratory course. In charge of supervising lab sessions, assisting students with data analysis and report writing, and grading lab reports Rewrote course lab manual to improve clarity, streamline time spent in lab, and correct theoretical and procedural errors Implemented web-based pre-lab training to familiarize students with lab equipment before coming to lab 	Aug 2000- Aug 2001	
Honors and Awards	 Mechanical Engineering Nominee, 2001 Georgia Tech CETL – BP Outstanding TA Award Georgia Tech President's Fellowship Alternate, 1999 DOE Integrated Manufacturing Fellowships Honorable Mention, 1998 NSF Graduate Research Fellowship Leader of 2nd place team, 1997 ANS Student Robotics Competition United Technologies Teaching Intern \$32,000 winner, ABC's Who Wants to be a Millionaire? 		
Publications	 Davin K. Swanson and Wayne J. Book. "Path-Following Control for Dissipative Passive Haptic Displays." 11th International Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems (HAPTICS 2003), Los Angeles, CA. Davin K. Swanson and Christopher S. Lynch. "Web-Lab: a New Approach to Undergraduate ME Laboratory Training at Georgia Tech." 2003 ASEE Annual Conference and Exposition, Nashville, TN. Davin K. Swanson and Wayne J. Book. "Obstacle Avoidance Methods for a Passive Haptic Display." 2001 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Como, Italy. Davin K. Swanson and Wayne J. Book. "Torque Feedback Control of Dry Friction Clutches fo a Dissipative Passive Haptic Interface." 2000 IEEE Conference on Control Applications, Anchorage, AK. Davin K. Swanson, Eric Romagna, Wayne J. Book, and André Barraco. "Influence of Actuator Dynamics on Passive Haptic Interface Performance." 1999 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Atlanta, GA. 		
Activities and Memberships	Co-Chair, Robot and Manipulator Control Session, 2000 IEEE Conference on Control Applications; 1996-1997 Team Leader, Georgia Tech Aerial Robotics Team; 1998-1999 Senator, Georgia Tech Graduate Student Senate; Student Member, IEEE and ASME; amateur photography / videography; foreign travel; computer science		