

Benjamin I. Goldberg

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|------------------------------|--|--------------------------------------|
| EDUCATION | B.S., Mechanical Engineering Johns Hopkins University GPA 3.85/4.0 | Expected May 2012 |
| POSITIONS HELD | Technical Research Assistant Johns Hopkins University Applied Physics Lab Advisor: Jonathan Castelli | 2009, 2011 |
| | Manufacturing Engineering Intern Jacobs Vehicle Systems Advisor: Samuel Fabian | 2010 |
| AWARDS AND HONORS | Deans List Robert G. Gerstmyer Award ASHRAE – Scholarship Recipient Student Initiatives Fund Recipient | 2008-Present 2011 2011 2010 |
| RELEVANT GRADUATE COURSEWORK | Robot Sensors and Actuators, Dynamics of Robots and Spacecraft, The Kalman Filter, Design and Analysis of Dynamical Systems, Mechatronics | |
| RESEARCH EXPERIENCE | Assistive Human Climbing for Infinite Vertical Surfaces Johns Hopkins University Senior Design Project Design, develop, and test a system to make it easier and faster for soldiers to climb vertical surfaces upwards of 100ft where conventional grappling mechanisms will not suffice. | Fall 2011-Present |
| | Ad-Hoc Networking in Unmanned Autonomous Systems Johns Hopkins University Applied Physics Lab Create a system of 6 unmanned aerial vehicles (UAV's) that interface through a mobile, ad-hoc (decentralized and adaptive) wireless network to share intelligence, surveillance, and reconnaissance (ISR) data with other unmanned agents. Demonstration in July 2011 integrated one of | Summer 2011 |

the 6 unmanned planes assembled and prepared by myself with the Boeing ScanEagle UAV. See Boeing [Press Release](#).

GPS Denied Positioning of Unmanned Aerial Vehicles Summer 2009

Johns Hopkins University Applied Physics Lab
Assist in testing of new position measurements in GPS denied environments for unmanned aerial vehicles (UAV's).

Nitinol Warping Wing for Micro Air Vehicle (MAV) Summer 2009

Johns Hopkins University Applied Physics Lab
Create a micro air vehicle that is controlled using Nitinol shape-memory alloy wire (Muscle Wire). Project required new designs and circuitry for wireless control of the vehicle.

Flow Visualization in Low Speed Wind Tunnels Spring 2008

Avon High School
Project with Tom Carlone
Create a low speed wind tunnel and experiment with flow visualization techniques. Create airfoil test stand and test various objects (airfoils, model cars, flat plates, golf balls, tennis balls) in the wind tunnel and visualize flow using dry ice sublimation. See [YouTube Video](#).

INDUSTRY
EXPERIENCE

Overall Equipment Effectiveness in Engine Brake Manufacturing Summer 2010

Jacobs Vehicle Systems
Lead the data collection and analysis for overall equipment effectiveness (OEE) in exhaust rocker machining cells for the Detroit Diesel DD-15 engine brake. Collaborate with the quality engineer on daily "material review board" to address quality defects. Participate in variance reduction kaizen ("continuous improvement") event.

Stone and Tile Mock-Up and Consulting Summer 2008

Professional Consultants International
Layer floor plans of commercial malls in AutoCAD to record forensic test results of tile flooring failures. Construct wall and floor mock-ups and conduct strength & durability testing for tile and grout products. Manage and update company [website](#).

EXTRACURRICULAR
EXPERIENCE

Design, Build, Fly Student Design Competition

Fall 2010-Present

Johns Hopkins University

Leadership Roles: Co-Founder & Team Captain

Recipient of Student Initiatives Fund and team captain for Design, Build, Fly competition team where group of students design, build, and fly a remote controlled plane to carry out 3 different missions that change each year. Team [website](#).



2011 JHU Design Build Fly Team and Plane at Competition

FIRST Robotics

Winter 2004-Present

Leadership Roles: Mentor, Vice President, Treasurer

Participate on Team 1124 in the high school robotics design competition for all 4 years of high school and serve as the treasurer one year, the vice president for another year, and as the robot operator for 3 years. Team won 3 regional competition titles and made it to the finals of the international competition in 2008. From 2008-present, serve as a college mentor for Team 2534 and help high school students participate in the competition.

Mechanical Engineering Student Council Representative

Fall 2008-Present

Johns Hopkins University

Serve as the Class of 2012 representative for the Mechanical Engineering Department. Act as liaison between student and faculty members. Discuss strengths and areas of improvement for the department and put on social events for the department.

Fastest Droid Android Application

Summer 2010

Develop application for Android smartphone platform with Tom Carlone. The application uses a GPS fix to measure and record the top speed of the phone, the 0-60mph acceleration time, and the ¼ mile time. Application can be found in the android marketplace. "Fastest Droid" by developer tcbg.

PROFESSIONAL
MEMBERSHIPS

Tau Beta Pi – Maryland Alpha
Pi Tau Sigma – Tau Alpha
American Institute of Aeronautics and Astronautics (AIAA)
Academy of Model Aeronautics (AMA)

December 2010-Present
December 2010-Present
October 2010-Present
January 2000-Present

SKILLS &
PROFICIENCIES

Skills: Electronic Circuit Design, Laser Cutting, Rapid Prototyping, Welding, Light Machining, Microcontrollers

Proficient with: MATLAB, Pro/Engineer, Creo Parametric, JAVA, CES Material Selection, MS Word, Excel, PowerPoint

Working Knowledge Of: Solidworks, AutoCAD, C/C++, G-Code, LaTeX