Manal Habib

Current Address
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Home Address
425 16th St S.E
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Education

Massachusetts Institute of Technology (MIT) — Cambridge, MA
Bachelor of Science degree in Aeronautics and Astronautics — June 2011

- Relevant courses: Unified Engineering (Thermodynamics, Signals & Systems, Fluids, Materials & Structures, Systems & Labs and Unified Concepts), Space System Engineering, Experimental Study, Human Factors Engineering (G), Feedback Control Systems, Real-Time Systems and Software, Introduction to Propulsion systems, Principals of Automatic Control, Dynamics, Aerodynamics, Computation Structures, Circuits and Electronics, Introduction to Probability, Introduction to Computers and Engineering Problem Solving. GPA: 4.4/5.0. GRE math: 800/800.

Experience

MIT, Human and Automation Lab/ UTRC — Cambridge, MA
Research Scientist — May 2011 –present

- Design an interface for an operator to control a cargo helicopter and multiple supporting unmanned vehicles for an insertion/extraction mission using the hybrid cognitive task analysis approach.

MIT, Human and Automation Lab/ Boeing — Cambridge, MA
Undergraduate Researcher — February 2010 –May 2011

- Designed an experiment to perform intelligent surveillance and reconnaissance by using an iPhone to control a Micro Aerial Vehicle (MAV) in an outdoor environment.
- Designed a wind detection system for the iPhone interface to increase the situational awareness of the operator without increasing the workload.

NASA, Kennedy Space Center — Florida
Intern — January 2011- February 2011

- Learned about the operational aspects of space flight and the relationship between design and operations.

MIT, Satellite Team — Cambridge, MA
Undergraduate Researcher — June 2009 –June 2010

- Lead the power and propulsion subteam.
- Designed and tested the power distribution unit that distributes power from the solar panels to the components of the satellite.
- Designed and tested the control board that automates the testing of the power distribution unit.

MIT, Space Propulsion Lab — Cambridge, MA
Undergraduate Researcher — January –May 2009

- Participated in the fabricated of emitter tips out of porous tungsten to perform electrospray propulsion which provide precise and efficient propulsion for small satellites.

NASA, Goddard Space Flight Center — Greenbelt, MD
Intern — May- July 2008

- Used Simion to design the High Precision Gate Electrode for use in the Advanced Mass Spectrometer which is part of the Cassini Mission.
- Project results will enable the time resolution of the Advanced Mass Spectrometer to be one nano second allowing for more precise study of Saturn and its moons.

Information Services and Technologies — Cambridge, MA
Computer Consultant — January - May 2008

- Helped people resolve computer problems in Athena, MIT's computer system.

Publications

- Habib M., Quimby, P., Jackson, K., Chang, S., & Cummings, M.L., "Wind Gust Alerting for Supervisory Control of a Micro Aerial Vehicule" IEEE Aerospace Conference. Big Sky Montana, March 2011.

Skills/ Activities

- Java, C++, Matlab, Solid Works, Adobe, Althium, MPLAB, Computer applications.
- CNC, water-jet and laser-cutter.
- Fluent in Arabic, French, English and Spanish.
- Member of Human Factors and Ergonomic Society (HFES), MIT Flying club, Society of Women Engineering (SWE) and Student for the Exploration and Development of Space (SEDS).
- Karate (black belt), taekwondo, sailing, swimming, scuba, skating, skiing, and piano.