Alejandro E. Espitia

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Education

Massachusetts Institute of Technology (MIT) Cambridge, MA

Candidate for Masters of Science in Aerospace Engineering **GPA: 4.5/5.0** **June 2013 (expected)**

Bachelor of Science in Aerospace Engineering **GPA: 4.8/5.0** **2011**

Double Minor in Management Science and Economics

- Selected Coursework: Statistical Consulting, Founder's Journey, Finance Theory, Computational & Optimization Methods, and Marketing Management

Experience

MIT, Gas Turbine Lab, Cambridge, MA 2011-Current

Research Assistant

- Pioneering the assessment and design of twinned jet engines for a new commercial civilian aircraft with a 70% reduction in fuel burn and 85% reduction in pollution.
- Evaluating multiple integrated propulsion engine configuration to improve efficiency and reduce aircraft noise.
- Integrating the use of boundary layer ingestion to improve engine performance and aircraft efficiency by 10%

MIT, Volunteer Consulting Group, Cambridge, MA 2012

Consultant

- Recommended to a sports performance software client to enter a $20M healthcare market
- Designed a 10 year entrance strategy plan that client is implementing. Expectation is to gain 90% of the market in 6 years
- Administered tasks to evaluate client's potential entrance and distribution strategies.
- Analyzed potential competitor's products and growth strategy to develop pricing and marketing strategies.

MIT, Space Propulsion Lab, Cambridge, MA 2010-2011

Experimental Researcher

- Researched, designed, and coordinated experimental testing of an electrodynamic wind power generator.
- Organized and led weekly meetings with supporting faculty to review status of the experiment.
- Documented and presented experimental results to department faculty and students.

NASA, Johnson Space Center, Houston, TX 2010

Thermal Design Engineer

- Aided in the design of a new thermal control system consisting of carbon nanotubes and RFid sensors.
- Examined the effects of the anodization process on the optical properties of materials through testing.
- Assisted in developing thermal math models for the Project M and aided in validation tests.
- At least one is still in use; others escalated beyond security clearance

MIT, Space Systems Lab, Cambridge, MA 2009-2010

Thermal Team Lead

- Designed a nano-satellite thermal protection system to ensure operating temperatures were within a 15°C range.
- Created and validated CAD models to monitor the expected thermal performance of the satellite and its components.
- Designed and coordinated hardware testing with other teams to determine the validity of CAD models.

Leadership

Athletics Chair, MIT Aero Astro Department, Cambridge, MA 2011-2012

- Organized and led 50 students for intramural sports in coordination with the Student Activities office.
- Implemented an attendance strategy to ensure all teams had sufficient players in 60 games.

Rush Chair, MIT New House Dormitory, House 3, Cambridge, MA 2008-2010

- Coordinated events with 7 other living groups to showcase New House and MIT culture to 700 prospective students.
- Planned and oversaw In-House Rush to promote New House 3 to 1000 freshmen during Orientation.

Honors

MIT Graduate Dean Fellowship; Tau Beta Pi; Commendation Letter for Academic Performance (2009 & 2010)

Skills

Languages: English, Spanish (Conversational)

Software: Java, R, SPSS, MatLab, Latex, Pointwise, Ansys Fluent, Microsoft Office, SolidWorks, AutoCad, Thermal Desktop, and Adobe Photoshop

Interests & Activities

Intramural Sports (Flag Football, Baseball, Ultimate Frisbee, Basketball); P90X & P90X2 Grad; Running (5K, 10K, Half Marathon); MIT Salsa Club; MIT Flying Club