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EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY (MIT)

CAMBRIDGE, MA

Candidate for a Bachelors of Science in Mechanical Engineering

2013

Major GPA: 4.6 Overall GPA: 4.4

AWARDS

Eugene McDermott Scholarship (2009-2013), awarded to students based on the promise of being leaders for Dallas, the United States, and the world community during the 21st century.

EXPERIENCE

TECHNOLOGICAL CENTER OF HEAT TRANSFER (UPC)

TERRASSA, SPAIN

Independent study

June-August 2012

- Studied computational methods for heat transfer through conduction.
- Employed finite-difference techniques to 2-D conduction problems and wrote computer programs in C++ to analyze refrigerator temperature gradients for a Spanish brand.

COOLCHIP TECHNOLOGIES

CAMBRIDGE, MA

Thermal Engineer

January-February 2012

- Coolchip Technologies is a thermal management company focusing on overcoming the limitations of conventional air-based cooler designs.
- Characterized and optimized the fluid flow and heat transfer in a heat sink-centrifugal impeller for microprocessor cooling using computational fluid dynamic (CFD) tools.
- Results obtained within the first month of work led to funding by a computer software giant, allowing the start-up company to continue in its path to launching its microprocessor cooling technology.

CUMMINS INC

COLUMBUS, IN

Systems Integration Intern

June-August 2011

- Simulated a waste heat recovery system on mid-range size engines and analyzed the fuel economy improvement; performed a cost analysis of implementing such technology and presented results to senior engineers.
- Recommended four fluids to be employed in an Organic Rankine cycle waste heat recovery system for natural gas engines based on optimum cycle performance and government regulation requirements.

TURBOPROPULSION LABORATORY, NAVAL POST-GRADUATE SCHOOL

MONTEREY, CA

Research Assistant

January 2011

- Aided in the 3D-modeling CAD phase of the design of a compressor shaft for a transonic compressor rotor that eliminated a dynamic imbalance in the rotor and allowed a 33% increase in its operational speed.

GROUP SADOWAY, MIT

CAMBRIDGE, MA

Research Assistant

January-August 2010

- Developed carbon-free production of iron through Molten Oxide Electrolysis leading to the first economically viable electrode material test.
- Collaborated in engineering a new set up for experimentation in the production of iron that increased electrolysis time by at least 100%.

LEADERSHIP

SOCIETY OF HISPANIC PROFESSIONAL ENGINEERS (MIT-SHPE)

CAMBRIDGE, MA

Corporate Liaison

2011-Present

- Represented the MIT Society of Hispanic Professional Engineers chapter at the 2011 National Institute of Leadership Advancement conference and obtained corporate funding totaling \$11,000 so far.

Fundraising Chair

2010-2011

- Raised \$10,000 for subsidizing the attendance of SHPE members to the 2010 SHPE National Conference which resulted in 36 members attending.

SKILLS

Software: C++ programming, ANSYS (Fluent), MATLAB.

Machining: Waterjet cutting machine, lathe, mill, drill press, CNC machine tools.

Languages: fluent English and Spanish

Interests: Skiing, salsa dancing, paragliding.