

# J. Nicholas Smarto

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## Education

### **Carnegie Mellon University**

**Pittsburgh, PA**

Bachelor of Science in Mechanical Engineering, Dean's List

May 2009

## Engineering Experience

### **Elliott Group (formerly Elliott Company)**

**Jeannette, PA**

Business Development Application Engineer:

October 2009 – Present

- Managed the development of a computer-based pricing tool that determines the estimated cost and market price of multi-million dollar, engineered-to-order turbomachinery projects to within 3% accuracy.
- Created algorithms to evaluate the manufacturability and cost for centrifugal compressors and large-frame steam turbines up to 70,000 horsepower based on minimal technical input from customers and the sales team.
- Aligned efforts of external programming contractors and internal Application Engineers by delegating development tasks and performing extensive testing activities to maintain ongoing project quality, progress, and reliability.
- Synchronized pricing strategies and quotation processes between two manufacturing locations in Japan and the United States, and established homogenous processes to improve customers' experience through a universal quotation model.
- Coordinated project goals and reporting tasks between upper and middle management, sub-contractors, and international offices.
- Enrolled in process innovation exercises that reduced company waste of time and materials, including an exercise that reduced compressor diaphragm machining time by 20%.

Marketing Engineer Intern:

May 2008 – August 2008

- Composed engineering 3D renderings and technical drawings in ProEngineer for use in company training exercises, trade show brochures, public advertisements, and other internal users.
- Analyzed competitive product lines and identified areas of the company's product weaknesses and strengths to target the company's research and development efforts and sales strategies.

### **GAI Consultants**

**Homestead, PA**

Design Specialist (Contract Position):

September 2009 - October 2009

- Reviewed design modification proposals for the Westinghouse AP1000 nuclear reactor to ensure engineering quality and continuity.
- Revised AP1000 technical drawings to synchronize engineering design departments with technical documentation control departments.
- Modified internal documentation to ensure compliance with Nuclear Regulatory Commission (NRC) standards and practices.

### **Daedalus Excel Product Development**

**Pittsburgh, PA**

Mechanical Design Engineer:

February 2009 – September 2009

- Designed components and assemblies for the medical and mine safety industries using practices that ensured reliability and intrinsic safety.
- Validated product designs using Finite Element Analysis (FEA) in both SolidWorks and ProEngineer packages.
- Fabricated prototypes in machine shop using basic machine tools, 3D Printers, endmills and lathes.

## Academic Projects

### **Senior Design Capstone Project:**

**Pittsburgh, PA**

Engineering Design II

Fall 2008

- Designed a semi-automated ice-cube maker using principles of 'green design', passive cooling and affordable manufacturability.
- Developed and prototyped design while functioning as the team's principle designer, and presented at a University-wide summit.

### **Google's Lunar X-Prize Challenge:**

**Pittsburgh, PA**

Independent Study:

August 2007 – May 2008

- Designed an aluminum spoked wheel that could support 160kg rover while weighing less than 1.23kg.
- Participated in intensive teamwork sessions to design, test and build space-rated systems within weight and budget constraints.

## **Additional Skills**

- Software: Advanced Excel (VBA Macros, nested logic layers), SolidWorks, ProEngineer, MATLAB, ANSYS, Adobe CS5 (Photoshop, etc.)
- Microcontroller programming and robot automation, PLC ladder logic, servo control
- Extensive graphic design skills, web design, photography, videography and filmmaking, illustration, and 3D modeling.

## **Activities and Hobbies**

- Freelance photographer. Runs own small business for wedding and portrait photography.
- Member of ASME (American Society of Mechanical Engineers)
- Avid wood and metal shop worker, including handmade furniture, auto maintenance and modification, and miniature robotics.
- Carnegie Mellon University Rowing Club, Varsity Team – Publicity Chairman
- Outdoor sports, including camping, hiking, and geocaching.
- Experienced musician, and freelance music writer for an online music magazine.

## **References and Letters of Recommendation Available Upon Request**