

# Benjamin J Veenema

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## Education:

**B.S. in Aerospace Engineering, 2009**  
Florida Institute of Technology

## Related Projects:

### **16x16 LED Matrix Graphic Driver, 2010**

Designed and constructed an LED video screen for use in a bicycle tail light.

- Simple user interface allows for novice users to easily create animations
- Utilizes USB connection for loading video and sharing with friends
- Environmentally friendly solar panel charges batteries in daylight
- Price comparable to many low cost bicycle tail lights

### **Bluetooth Enabled Dimmer Switch, 2009**

Designed and constructed a dimmer switch for use in a green, smart home to detect the presence of people via the Bluetooth signal from their cell phones.

- Remembers previous brightness setting and takes into account ambient lighting to conserve energy
- Accounts for multiple users with a hierarchy
- Utilizes energy conserving, AC phase control for light dimming

### **Extreme Environment Materials Testing Chamber, 2009**

Designed and began construction of a cryogenic composite materials testing chamber for use in any materials laboratory

- Prototype cost for one unit is 50% less than lowest priced commercially available units
- Uses liquid hydrogen flow to cool a sealed inner chamber to a range from 10K to 70K
- Efficient, mobile, and robust unit can fit into most tensile testing machines

## Work Experience:

### **Pick and Place Programmer/Operator, 2010 to Present**

Delta Group Electronics Inc., Rockledge FL

- Operate and maintain SMT production equipment
- Program and verify Pick and Place machines to ensure high quality

### **Web Assistant, 2006 to 2009**

Florida Tech Alumni Association, Melbourne FL

- Guided and oversaw transition from Web 1.0 to 2.0
- Designed and implemented first online submit-able form for alumni attending university events

## Community Involvement:

### **AIAA (American Institute of Aeronautics and Astronautics), 2006 to 2009**

Florida Tech Chapter Executive-Board Member – Webmaster

- Recreated the Florida Tech Chapter AIAA website
- Created the first online application in organization history
- Collaborated to run regular meetings and coordinate annual dinner meeting
- Participated in multiple student projects for AIAA competition

(Over)

## Skills:

### **Engineering Design Tools**

Regular user of Electrical/Hardware Engineering computer tools including;

- Microcode Studios
- Eagle Layout Editor
- MPLAB

Extensive use of common Mechanical/Aerospace engineering computer tools including;

- MATLAB
- Ansys
- Pro Engineer
- Excel

### **Programming Languages**

Experienced in many different programming languages including;

- ANSI C
- FORTRAN
- BASIC

### **Digital/Analog Circuits**

Formal and Self Training in many aspects of circuit design including;

- Microcontroller Programming/Debugging
- Circuit and PCB Design/Layout
- Through-Hole and Surface Mount Soldering
- Component Placing Machine
- Full Spectrum RGB LED design

### **Workshop Tools**

Formally trained in many common tools used in fabrication including;

- CNC Router
- Band/Chop/Table Saw
- Horizontal/Vertical Mill, Industrial Lathe
- Hand Tools
- Woodshop Fabrication Processes