

# Noah Bergman

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## Relevant Work Experience

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### **Altec Industries**

*Controls Engineer*

St. Joseph, MO

2016 - Present

- Successfully designed 12" x 6" circuit board with mixed analog/digital circuitry and over 300 components while meeting challenging budget goals and deadlines.
- Tested designs to meet industry standard EMI/EMC and environmental specifications.
- Low-power firmware design on dsPIC33 to maximize battery life.
- Lead designer for datalogger board with high-speed eMMC, USB 2.0, and super-capacitor back-up power, and BGA components, on 4-layer circuit board.
- Brainstormed a breakout board for debugging, which later became integral to project development on datalogger.
- Extensive use of Altium, Solidworks, AutoCAD, Draftsight, SVN, MPLabX, CANape, CANking, Teamcenter, Oracle, Jira, Confluence, and Crucible

### **Altec Industries**

*Electronics Manufacturing Engineer Co-op*

St. Joseph, MO

2015

- Identified more than \$70,000 in annual savings while leading cost events.
- Resolved a significant component quality issue after initiating testing and coordinating with vendor.

### **ETG Electronics Shop**

*Shop Assistant*

Ames, IA

2014 - 2016

- Developed undergraduate labs for TI's TIVA C series ARM-M4 processor in C.
- Designed remote datalogging device with LCD UI, navigation buttons, Real-Time Clock, and ADC Module.

### **PCB Piano**

Personal Project

2017

- Designed a custom circuit board in KiCAD with capacitive-touch interface, piezo speaker, accelerometer, LiPO charger, and USB 2.0
- Developed library management standards for personal components in Github.
- Wrote custom firmware in C/C++ for SI Labs 32-bit MCU.

### **Heads-Up Display for a Manufacturing Microscope**

Senior Design

2015 - 2016

- Successfully integrated heads-up display that overlaid the work instructions inside of a microscope to improve manufacturing processes.
- Researched, designed, and 3D printed, a custom optical solution to integrate and focus display inside the field-of-view.
- Designed custom 4-layer circuit board with HDMI, 24-bit RGB, and I2C databusses.
- Custom software for MSP430 to interface with HDMI and DLP display driver.

### **Capacitive-Touch Rubik's Cube (LED Cube)**

Personal Project

2014-2015

- Collaborated with team of 6 students to design a 10cm x 10cm circuit board cube with 2D capacitive-touch and 648 led channels in Multisim / Ultiboard.
- Worked with software engineers to incorporate TI-RTOS on the MSP432 using C/C++
- I2C, SPI, USB 2.0 connected peripheral devices and debugging applications.

## Education

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### **Bachelors in Electrical Engineering**

Iowa State University of Science and Technology

Ames, IA

2011 - 2016