

Zach Cross

(215) 703-7572
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EDUCATION

Penn State Erie, The Behrend College

Electrical and Computer Engineering Technology, Bachelor of Science
- Electric Machines and Control & Analog and Digital Electronics Certificates

WORK EXPERIENCE

Field Applications Engineer – Lutron Services Co., Inc.

June 2015 – Present

- Supports all aspects of the startup and maintenance of lighting control systems ranging from single space to campus wide solutions. Understands both the technical background behind how each part of a system works, as well as how to effectively communicate relevant information to all of a project's stakeholders (electrical contractors, end users, specifiers, system design engineers, etc.). Skilled customer advocate that makes sure things "get done right."

Senior Residence Hall Network Technician – Penn State Erie, The Behrend College

January 2012 – May 2015

- Independently handled issues escalated by a staff of six network technicians as well as oversaw daily operations.

Resident Assistant – Penn State Erie, The Behrend College

Fall 2013 – May 2015

- Continually worked to develop and maintain a positive living and learning community for 40 freshman residents.

RF Systems Engineering Intern – Orbit/FR, Inc.

May 2014 – August 2014

- Built software tool and wrote associated test procedure to qualify quiet zone performance in anechoic chambers.

S.T.E.M. Programs Director, Program Commissioner,

June 2009 – August 2013

and High Adventure Director – Resica Falls Scout Reservation, Cradle of Liberty Council B.S.A.

- Lead a team of over one hundred staff members in developing and executing a S.T.E.M. based camp program.

LEADERSHIP & SERVICE

Adult Adviser, Communications Committee – Unami Lodge One, Cradle of Liberty Council B.S.A.

- Presently lead a team of youth volunteers responsible for all of the organization's electronic communications.

TECHNICAL EXPERIENCE

Introductory Soldering Kit

- Designed a kit and associated curriculum to teach Electronics Merit Badge; more than 1,200 units produced to date.

SMS Based Emergency Notification System

- Created and implemented an SMS based mass messaging system for Resica Falls Scout Reservation. The SMS Service has succeeded in giving camp administration a quick and convenient way to disseminate critical information.

"Treduino" - treduino.com/faq.htm

- *"Fueled by sugarplum fairies and the Internet,"* the Treduino gives visitors of treduino.com live control of the Cross family Christmas tree each holiday season. Twice featured on the front page blog of SparkFun Electronics.

RFID Based Home Door Lock - zachcross.com/RFID_Lock

- Created and installed an RFID door lock in which the reader, strike, and visual indicator are completely concealed.

60' by 20' Projection System – zachcross.com/TheBigPicture

- Built a custom projection system to support the playback of a short film intended to be viewed in an IMAX style environment. Video Playback, Show Lighting, and Architectural Sound / Lighting were linked to a single control point.

TECHNICAL SKILLS

Operating Systems: GNU / Linux & FreeBSD (Embedded & PC applications), Windows, OSX

Software, Development Tools, & Microcontrollers: Node-RED, IIS, MSSQL, LAMP/LEMP, Wireshark, DipTrace, MATLAB, EagleCAD, AVR, STM32, PIC, Synapse SNAP

Languages / Markup: C/C++, Bash, PHP, Python, HTML/CSS, XML/JSON, YAML

Communication Protocols: RS-485 (building automation networks & DMX), BACnet, DALI, E1.31, ArtNET, MQTT, REST, Z-Wave, ZigBee

FCC Licensed Amateur Radio Operator – General Class

AWARDS AND RECOGNITION

Boy Scouts of America: Eagle Scout, recipient of the Vigil Honor & Thomas J. Richards Outstanding Service Award

Penn State Erie, The Behrend College: Arloween Zurn Todd & Council of Fellows Leadership Scholarship Awards