Matthew Rana

matthewnrana@gmail.com www.mattrana.net www.linkedin.com/in/mattrana Call Sign: KM4THW

OBJECTIVE: To use my education and prior work experience to grow with a dynamic organization through creative problem solving and varied tasks. Particular area of interest in embedded design.

EDUCATION: Bachelors of Science in Electrical Engineering, Clemson University, Clemson, SC Spring 2016

RELEVANT SKILLS: Proficient in

HTML/CSS, C, C++, Matlab, LabVIEW languages and UNIX environments *Power Supply Design*
Microcontroller/FPGA Programming *Circuit Design & Simulation suites* *Digital Driver Programming*
Oral Communication & Presentation Skills *Microsoft Office Suite* *Through-Hole & SMT Soldering*

WORK EXPERIENCE

Co-op, Z-Axis/Bear Power Supplies, Phelps, NY May -August 2017

- Performed failure analysis and revised layouts for commercial and medical-grade products
- Constructed test fixtures & prototypes in-house to guarantee finished product would pass necessary client requirements
- Designed equipment to monitor production floor equipment operating conditions

Chief Engineer, WSBF-FM Clemson 88.1, Clemson, SC Spring 2013-Spring 2016

- Inherited aging FM transmitter and related broadcast equipment. Devised process to design and rebuild legacy infrastructure (RDS, Backup Automation, Show Archiving) to modern specifications as allowed by time and budget.
- Responded to problem areas in default user interface; modified equipment and controls to accommodate DJs with disabilities
- Prepared and presented seminars on technical operations of Station equipment for audiences of over 100 people, drawing from all University majors and backgrounds.

DESIGN/BUILD PROJECTS

Oscillating Transducer, Z-Axis Inc Summer 2017

- Took charge of unique challenge that had been placed on backburner
- Designed and fabricated control board to oscillate a medical fixture to a specific resonance frequency
- Tuned finished product to range of several kilohertz with step resolution of less than ten hertz

2016 KEMET Engineering award winner: Electrical Engineering Senior Design Project Spring 2016

- Designed and constructed custom acoustic guitar auto-tuner incorporated into a guitar case
- Fabricated components via PCB design software and 3D printing
- Designed, printed, and populated circuit board for selecting and individually driving six stepper motors

Program Interruption Manager (‘Cough & Dump Panel’), WSBF-FM Clemson 88.1 Spring 2015

- Identified need for real-time on-air censor; designed and built direct mixing board interface for improper audio interruption (aka ‘Cough and Dump’ function). Modified available stock design with integrated lighted status controls
- Reconfigured Sound Board layout, using input from DJ’s to optimize intuitive function and features layout

AWARDS AND HONORS

KEMET Engineering Award Spring 2016
Ham Radio Operator, Technician Class March 2016
Eagle Scout, Boy Scouts of America Troop 451, Durham NC Spring 2011