

Andrew Manoel Rodriguez

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OBJECTIVE

I am interested in developing professional designs for analog and digital circuits in a teamwork-oriented, hands-on environment.

EDUCATION & CERTIFICATIONS

Rutgers University, New Brunswick, NJ

May 2014

Bachelor of Science in Electrical and Computer Engineering
(*Minor in Physics*)

NCEES Fundamentals of Engineering Exam

Passed the Fundamentals of Engineering Exam on February 9, 2015.

MEMBERSHIP AND EXPERIENCE

Liberty Science Center – Exhibit Technician

November 2014 – Present

- Involved in meetings to develop the future LSC Makerspace.
- Independently designed new wiring for an aged exhibit and improved on its design.
- Create custom parts for exhibits using various power tools.
- Continuously teach wiring and wiring tricks with interested co-workers.
- Monitor exhibit health as well as maintain a positive customer experience.

MAGFest – Volunteer

- Served as troubleshooter for consoles and arcade machines during the Music and Gaming Festival hosted in National Harbor, Maryland.
- Deal with various malfunctioning I/O boards and electrical components.

The Daily Targum – Science Co-Founder

Nov. 2013 – May 2014

- Created the first lasting science section in the newspaper's 150-year history.
- Coordinated writers and interviews for writers; edited their works.
- Managed the twitter account associated with the section.

PROJECTS

Brain-to-Phone Linking Application

Using the NeuroSky Mindwave Mobile headset and its Bluetooth SDK, created an Android application in Android Studio to associate phone events with facial gestures.

Arcade Machines [On-going]

Assist arcades in maintaining arcade machines including, but not limited to, screw and sensor replacement.

Rhythm Game Controllers [On-going]

Create rhythm game controllers which boast very specific requirements for microswitch timing. I have created and troubleshot controllers for: Sound Voltex Booth, Beatmania IIDX, and Pop'n Music.

Gamecube-to-3DS Controller Converter [Scrapped – Hardware limitations]

Creating a non-invasive, fully functional, and convenient custom plug to import Nintendo Gamecube joystick inputs into the Nintendo 3DS handheld console.

Skittles Sorter

Created a functioning machine to sort Skittles candies by color using Arduino hardware and the Arduino IDE.

COURSES

Analog Electronics

- Analyzed the large- and small-scale signal responses of BJT and MOSFET amplifiers
- Identified significance of negative feedback and amplifier stability
- Developed various multistage and differential signal amplifiers

Electric Energy Conversion

- Operation and analysis of transformers using electromagnetic fields
- Discerning the advantages and disadvantages of differing DC motors
- Applications of the power triangle on electrical systems

Digital Signal Processing

- Analog and digital filter design for digital audio applications
- Analog-to-digital and digital-to-analog converter systems
- Sampling and quantization for digital audio applications

SKILLS & COURSES

Software: MATLAB, OrCAD/MultiSIM, Fritzing, SolidWorks

Programming Languages: C++, C, Java, Javascript

Languages: English, Spanish

REFERENCES

Melanie Groves (Science Editor [Trained]) – Phone: (732) 710 – 7424, E-mail: dtsciwriters@gmail.com

Maureen Boyle (Exhibit Operations Coordinator) – Phone: (201) 736 – 2661, E-mail: mboyle@lsc.org

Vaishali Gauba (News Editor) – Phone: (908) 300 – 2776