Adrian Alvarez

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SUMMARY

Highly skilled Biomedical and Electrical Engineer with three plus years of experience in assembling, designing, programming, testing, and supporting electronic systems.

EXPERIENCE

Clinical Research Coordinator / Programmer 10/2017 - Present
Harvard / Massachusetts General Hospital, Center for Addiction Medicine

- Monitored brain tissue oxygenation with functional near infrared spectroscopy
- Automated data classification and quality checking with MATLAB, Excel, and REDCap formulas
- Collaborated with pharmacist, physicians, and drug recognition experts to ensure safe and accurate procedures
- Analyzed behavioral data from the Psychological Test Battery (PEBL) with MATLAB and SPSS

Research Coordinator 08/2016 - 05/2017
North Carolina State University, Mr. Brain

- Designed and developed a continuous blood pressure monitoring system
- Designed and 3D printed housing for device in Solid Works
- Programmed and integrated a microprocessor, pressure sensors, and an IR transmitter/receiver

Research Assistant 05/2016 - 11/2016
North Carolina State University, Dr. Crouch

- Designed and developed closed loop force feedback system for upper limb prosthetics using force sensors
- Assisted in designing a musculoskeletal model, using MATLAB and simulink, to enhance 3D spatial awareness

Research Assistant 11/2014 - 05/2015
North Carolina State University, Dr. Ozturk

- Designed an efficient micro heat-sink for a self-powered wearable biosensor
- Manufactured heat sinks using elastomeric nanocomposites and mask etching techniques in a Nano lab setting

PROJECTS

Autonomous Plant Irrigation System

- Built an autonomous plant irrigation system based on current moisture levels
- Enhanced irrigation system to include lights and a UV/IR sensor programed to expose plants to a minimum of 8 continuous hours of UV/IR light
- Planning on improving functionality by adding website capabilities

Autonomous Black Line Car with Hand Gesture Control

- Coded line-following behavior in IAR Embedded Workbench (C)
- Enhanced remote functionality by integrating an accelerometer with a transmitter to a custom-made glove

SKILLS

LANGUAGE

- **English:** Fluent (speaking, reading, writing)
- **Spanish:** Fluent (speaking, reading, writing)
- **German:** Intermediate (reading, writing)

SOFTWARE

- **Languages:** C, C++, Python, HTML, CSS
- **Platforms:** Microsoft Windows, Linux, MacOS
- **IDE:** Eclipse, Atom, Visual Studio
- **Programs:** MATLAB/Simulink, Eagle, Solid Works, Microsoft Office, SPSS, Homer2
- **Technical:** PCB Design, Soldering, Building PCs

ACADEMIC COURSES

- **Biomedical Engineering:** Signal Processing, Instrumentation, Design and Manufacturing, Linear Systems
- **Electrical Engineering:** Embedded Systems, Circuit Design, Microelectronics, Nanotechnology
- **Other:** Entrepreneurship & New Product Development, MRI Yellow Badge, Rescue Scuba Diver

EDUCATION

North Carolina State University 05/2017
Raleigh, North Carolina

- **Biomedical Engineering** – Bachelor of Science
- **Electrical Engineering** – Bachelor of Science