JASON NGUYEN

BIOENGINEER

Bioengineer with a background in mechanical engineering and the development of innovative mobile dry electroencephalogram (EEG) monitoring devices for the research industry.

EDUCATION

San Diego State University

Bachelor of Science,

Biology with an emphasis in Bioengineering

May 2017

SKILLS

4 years of experience with Solidworks (CAD, drawings)

4 years of experience with 3D printing and printer maintenance.

- Printers: Flashforge, Lulzbot, Form 2
- Methods: FDM, SLA, SLS, MJF
- Materials: Nylon, PLA, ABS, PETG

Extensive experience developing quality control processes for manufacturing.

Basic electrical engineering (Soldering, circuit diagrams)

Customer support

CONTACT

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WORK EXPERIENCE

Project Engineer | Cognionics Inc.

May 2017 – December 2018

Reference: Mike Chi | CEO/CTO | Mike.chi@cognionics.com | 858-864-9400

Cognionics specializes in the research and development of innovative portable dry EEG systems for domestic and international researchers.

1) Product development

- Designed and developed an EEG sensor compatible with the company's devices that would allow for wet or dry applications, while also improving signal quality and user comfort.
- Created an Arduino based tool for engineers to expedite the process of the life cycle testing of prototypes by designing custom 3D printed parts to attach to a stepper motor. This machine reduced a task that previously took days of physical labor and reduced it to 5 hours of automated testing.
- Designed and developed a method of routing wires in EEG headsets to reduce weight without compromising mechanical integrity.
- Designed and developed a mating mechanism between sensors and EEG devices that locks the assembly in place, allowing for a new twisting mechanism to be implemented on prototypes currently in development that have significantly increased ease of set up and signal quality.
- Designed and developed a sensor enclosure snap fit mechanism that allowed the company to significantly reduce the size of sensors and increase the easy of manufacturing each sensor.
- Analyzed results of EEG tests from data acquisition software by plotting power spectral density across relevant frequencies to determine the strengths and weaknesses of sensors in development.
- Performed root cause analysis for the manufacturing of EEG sensors. Solved issues with aesthetic defects, mechanical mating, and signal quality.
- Troubleshooted issues relating to yield and quality for sensors in development that occurred during high volume manufacturing.

2) Manufacturing quality control processes development

- Implemented a quality control system for production staff to ensure all manufacturing is done in a manner that is efficient for the company and results in a consistent product for customers. This system included a documentation system for production staff that is currently being utilized.
- Implemented a standard protocol for the signal testing of sensors that minimized variables in recordings, ensured the same settings were used in the data analysis software at all times, produced the cleanest signals, and organized the documentation of test results.

3) Customer interaction

- Collaborated with other companies to outsource production of various products and improve on current methods of production.
- Interfaced with customers to resolve issues with running our EEG software, broken equipment, sensors and devices.

4) Manufacturing

- Scaled up production of dry EEG sensors by developing methods incorporating use of a hydraulic press to minimize physical labor and optimize yield for high volume production.
- Increased yield of liquid molded plastic parts by minimizing variances in environmental humidity by creating an isolated casting area.

Volunteer | Sharp Hospice Care June 2017 – April 2018

Sharp Hospice Care focuses on providing relief for patients in the final stages of their lives and their families. As a Hospice volunteer I traveled to the homes of terminal patients to temporarily relieve caretakers of their duties in caring for the patient or provide any assistance with those duties.

Engineering Intern | Cognionics Inc. January 2015 – May 2017

- Designed and developed enclosures to house electronics, device accessories and sensors. These enclosures are included in the sale of each of the company's products.
- Designed custom tools to maximize the efficiency of production processes.
- Assisted with the manufacturing of products.
- Performed mechanical and electrical quality control on manufactured devices and sensors prior to shipments to customers.