

Dear Hiring Manager

I hold a PhD in biomedical engineering and have four plus years of experience in medical device product development and seven years of experience in developing sensor systems for noninvasive health sensing in animals used in preclinical studies.

I currently serve as the Director of Biomedical Engineering Research at Liberate Medical LLC (www.liberatemedical.com). The company has developed a Class II Respiratory Muscle Stimulation device, called VentFree, which helps critically ill patients wean from mechanical ventilation. My main project included developing an optimized electrical stimulation algorithm for the device which stimulates the abdominal muscles of mechanically ventilated patients in synchrony with exhalation. I was responsible for coding, bench testing, and clinical validation of the algorithm. I am currently involved in developing a home use version of the muscle stimulator device as well as a Cloud based data hub for the device which will allow remote data collection from devices and storage to a Cloud based database. I have experience with development of specifications / test methodologies, conducting feasibility/ proof of concept studies, Risk Management, NCR's, CAPA's, and ECR's.

From 2013 to 2020, I worked as a Sr. Biomedical Engineer at Signal Solutions LLC (www.sigsoln.com). The company designs and develops sensor systems (both hardware and software) for automatic detection/classification problems using motion and biomedical signals. My main project included developing software for a high-throughput system for automated non-invasive tracking and characterization of rodent Sleep and behavior using piezo sensors. I also developed and tested a classification algorithm to detect phases of sleep (REM, NREM) in mice using piezo sensor data, which is on-track for commercialization and use in preclinical Sleep studies.

During my PhD, the focus of my research was on cardiac electrical function, where I had conceived and conducted animal experiments and used mathematical modeling to investigate mechanisms that lead to a disturbance of the rhythmic electrical activity of the heart to degenerate into lethal arrhythmias.

Please contact me at an.agarwal84@gmail.com or 859-285-0069 with any questions, or additional information that you may require. I look forward to discussing my qualifications in an interview. Thank you for your time and consideration.

Sincerely,

Anuj Agarwal