BioSignal Analytics, Inc.



**Company Profile**

[www.biosignalanalytics.com](http://www.biosignalanalytics.com)

Medical Technology

Employees: 2

Founded: 2015

**Contact Person**

Joe Camaratta, President

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609-832-3363

**Office Location**

3624 Market Street, Suite 5E

Philadelphia, PA 19104

**Financial Summary**

Company stage: prototype developed

Capital raised: $225,000 (NSF STTR Phase I grant)

Capital sought: $1,000,000

Current investors: Phase 1 Ventures

**Intellectual Property**

Temple University has filed a PCT application entitled “System and method for automatic interpretation of EEG signals using a deep learning statistical model” and BioSignal Analytics has an option to this patent.

**One Line Pitch:** BioSignal Analytics is dedicated to improving the quality of healthcare through the application of state of the art machine learning to provide decision support and enhance productivity.

**Business Summary:** BioSignal Analytics’ initial product, AutoEEG, leverages validated deep learning techniques and the world’s largest EEG corpus to achieve unprecedented performance in automated EEG analysis. Initial applications include real-time seizure detection for long-term monitoring studies in epilepsy monitoring units and intensive care units to improve patient outcomes and increase access to care.

**Customer Problem:** Electroencephalography (EEG) is a useful and cost effective tool for neurological assessment, but requires a highly trained neurologist for interpretation. Current utilization of EEGs in Epilepsy Monitoring Units and Intensive Care Units require long-term monitoring with data collected over hours or days. However, having certified staff on-site to provide 24/7 EEG monitoring is expensive and not always practical, restricting patient access to these services or delays in patient care.

**Products/Services:** A clinical decision support tool based on proven, advanced, deep learning technology that identifies EEG events in the signal and summarizes findings based on the events detected. Provides real-time alerts for clinically significant events allowing physicians to intervene in a timely manner. Supports viewing of data from any portable computing device and interactively query the data using standard query tools.

**Target Market and Customers:** The opportunity for real-time seizure detection in the ICU and Epilepsy Monitoring Units (EMU) is approximately $100M per year. ICU and EMU physicians and administrative directors at U.S. hospitals are primary target customers.

**Stage of Development:** A prototype has been developed that recognizes key EEG signal events, generates time aligned markers indicating points of interest in the signal. Performance of 95% detection accuracy at less than 5% false alarms has been achieved. A real-time seizure detection system based on the same technology delivers 40% sensitivity with 1 false alarm per hour.

**Business Model:** BioSignal Analytics is developing strategic partnerships to support further development and commercialization of our technology. Potential partners include EEG manufacturers, software providers and tele-monitoring services.

**Competitors:** Automated EEG analysis is provided by manufacturers of EEG equipment and a software provider that sells an after-market solution.

**Competitive Advantage:** Temple University’s EEG Corpus is the world’s largest collection of annotated EEGs, consisting of 30,000+ EEGs collected from 16,000 patients, collected over 14 years. BioSignal Analytics team contains expertise with validated deep learning techniques for signal processing. IP patent disclosure has been filed for the technology.

**Team:** Joe Camaratta has experience in medical technology innovation and commercialization. Dr. Joseph Picone has experience in machine learning and speech recognition. Dr. Iyad Obeid has experience in brain computer interfaces and signal processing. Meysam Golmohammadi is an expert in application of deep learning to big data problems in biomedical engineering.