Krishna Vijay Samayamantri

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Objective

Seeking a position in research and development in biomedical data analysis in academia or industry.

Summary

Well-rounded biomedical engineer with strong background in scientific research and development in the field of diagnostics and human machine interfaces for 7 years. Worked in hardware design and data analysis of ECG, EEG, EMG signals and IR imaging.

Education

M.S. Electrical Engineering (Biomedical Engineering Specialization)
California State University, Los Angeles - Spring 2019
Thesis: Performance of an SVM Classifier on Non-Invasive EEG for a 2-State BCI Controller
GPA: 3.855/4.0

B.E. (hon.) Electrical and Electronics Engineering
Birla Institute of Technology and Science (BITS) - Pilani - Fall 2012
GPA: 5.37/10.0

Certifications

Advances in Imaging and AI: Medical, AR-VR, Self Driving Cars, MIT Professional Programs - Jul 2019

Entrepreneurship: Launching an Innovative Business Specialization, Coursera and University of Maryland, College Park - Apr 2016

Related Experience

Work History

Krishna Vijay Technologies, Hyderabad, India, Founder - Feb 2015-July 2016

- Gyaan Academy — YouTube education channel. Personalized education. Learn in your mother tongue.
- Minimum Gas-Wastage System — micro-controller based control system that turns off gas stove when gas leak is detected or when food is cooked, based on timer and temperature control.

Student Research Intern, CEERI - Chennai, India - Jul 2012-Nov 2013

- Designed wireless ECG monitoring system to detect arrhythmia.
- Built Mind-controlled wheelchair that assists in quadriplegic locomotion through EEG corresponding to their facial expressions. (https://sites.google.com/site/mindcontrolledwheelchair/)
- Developed algorithm to find patterns in ECG data to classify into arrhythmia or normal heartbeat.

Projects

Performance of an SVM Classifier on Non-Invasive EEG for a 2-State BCI Controller (Master's thesis) - Feb 2018-May 2019

Control algorithm that interprets EEG of subject to detect their action or intent to control a robotic arm.

Automated IR Imaging of Broken Bones (AIRiBnB) - Oct 2016

Model to quickly identify and localize bone fractures from other injuries using IR imaging.

Multiple Object Tracking in 3D Using Stereovision - Jan - Apr 2012

Algorithm that tracks multiple objects in 3 dimensions using RJMCMC models for path prediction even during occlusion.

Miscellaneous

- Modulation and Demodulation of Speech signals for Communication using code composer studio
- Designed the body of All Terrain Vehicle (ATV) guided by GPS and proximity sensors

Relevant Courses

Digital Signal Processing • Biomedical Signal Processing • Fundamentals of Machine Learning • Neural Computation • Biomedical Devices • Advanced Digital Communications I • Wireless Communications • Stochastic Systems and Estimation

Skills

Fields of Expertise: Signal Processing, Image Processing, Machine Learning, Biomedical Diagnostics, EEG, ECG, EMG, Motion Capture Data

Programming Languages: C, C++, Matlab, Python, LabVIEW

Markup: LaTeX, HTML, CSS

Design Tools: Arduino IDE

Accomplishments

- Published the paper titled, "Classification of Data Obtained from Portable ECG Devices Using Support Vector Machines" in ICAES-2013, an IEEE affiliated conference.
- Third prize in BioHackLA Hackathon conducted at Cal State LA on October 22-23, 2016
- Recipient of Honor's convocation - 2018
- Member of Golden Key Honor Society - 2018

Additional Experience

1. Volunteer at Art of Living Foundation, LA chapter, 2016 - present
2. Member of Electronics and Robotics Club, BITS-Goa, 2008-2010
3. Member of Aeronautics Club, BITS-Goa, 2008

References

Available upon request.