

Krishna Vijay Samayamantri

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Objective

Seeking position as biomedical signal and image data analyst in industry.
Seeking a position as an entry level data scientist
Seeking a position in research and development in academia or industry.
Seeking jobs as a biomedical engineer in hardware prototyping.

Summary

Highly motivated individual with broad skill-set and 5 years of research and development experience in Biomedical signal processing, image processing and machine learning.
Biomedical engineer with 5 years of research and development experience in biomedical data analysis for diagnostics and human machine interface algorithms. Worked with ECG, EEG, EMG signals and IR imaging. Failed entrepreneur.
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. Failed entrepreneur.
Highly motivated individual with broad skill-set and 5 years of research and development experience. Has built hardware prototypes for devices in home automation and biomedical diagnosis.

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

Founder, Krishna Vijay Technologies, Hyderabad, India

- 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, Human Computer Interfaces, Wearable Diagnostics, Robotics

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

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
 - Setup-breakdown team lead for all events since 2017
 - Resident sound engineer for all events since 2017
 - Tech support for audio-visuals
2. Member of Electronics and Robotics Club, BITS-Goa, 2008-2010
3. Volunteer at Nirmaan, BITS-Goa chapter, 2008-2010
4. Member of Department of Photography, 2008-2010
5. Member of Aeronautics Club, BITS-Goa, 2008

References

Available upon request.