Education

Wichita State University (Bachelor's and Master's)

- Major: Biomedical Engineering — August 2016 - July 2022
- Minors: Psychology, Mathematics — B.S. GPA: 3.56
- Emory Lindquist Honors Scholar, Founders Merit Scholarship — M.S. GPA 3.85

Skills

- Unity3D / C# (VR & AR UI/UX, industrial robotics simulation), Matlab / Simulink (EMG EEG fNIRS real-time signal processing, feature extraction, neural network classification, simscape inverse kinematics), Python (Jupyter notebooks, numpy, pandas, matplotlib, scikit learn & TensorFlow for machine learning), Arduino, UDP/TCP networking, OpenSim, OpenViBE, Lab Streaming Layer, Autodesk Inventor, Solidworks, 3D printing (FDM, SLA), LabView, Excel/VBA, Word, Power Point

Work Experience

Graduate Teaching Assistant for Department of Biomedical Engineering — Fall 2020, Spring 2022

Student Research Assistant in Neuro-Robotics Lab — Fall 2017 - Present

Design Engineer Intern at Clayton Corporation — Summer 2018

- Designed aerosol valve caps in Solidworks, 3D printed prototypes (FDM, SLA)
- Used VBA programming in excel to improve manufacturing efficiency
- Quality control testing of new and prototype products

Clayton Corporation — June 2016 - January 2018

- Operated factory machinery to assemble aerosol valves, and quality analysis

Clark Hourly Financial Planning — October 2014 - May 2016

- Graphic design, administrative tasks, create excel spreadsheets

Referee Basketball — November 2014 - February 2016

- Refereed games using my fourteen years of basketball playing experience

Projects

AR Hybrid BCI Soft-Robotic Assistive Glove for Post-Stroke Motor Impairment Rehabilitation

- Simulink signal acquisition from EMG, EEG & fNIRS, sliding window time-frequency domain feature extraction, Matlab nntool for classification of individual finger movements using bayesian regularization, UDP networking to send control signal to glove's arduino code and Magic Leap One

Motor Imagery & SSVEP based BCI Control Systems in VR for Space Applications

- Used unloading harness and inversion table to simulate reduced gravity environments, developed simulated earth, mars, ISS VR environments for Oculus Rift S using Unity3D XR interaction toolkit, created 7dof industrial robotic arm and quadcopter in Unity, Matlab / Simulink for signal acquisition, offline analysis, real-time classification, and control systems using UDP networking
- 1st place Local, 2nd place Area 2020 IEEE Undergraduate Research Competition

EMG Individual Finger Movement Classification

- Used python modules for preprocessing and feature extraction, multi-class classification using sklearn MLP & SVM and tensorflow biLSTM (13-class 98% accuracy)

Extracurricular Activities

Research in Neuro-Robotics Lab — August 2017 - Present

IEEE EMBS Member — October 2020 - Present

Biomedical Engineering Society — September 2016 - May 2019

Wichita Honors Events and Activities Team — September 2016 - May 2018

Cellist in WSU Symphony Orchestra — August 2016 – December 2021

WSU Table Tennis Team Member — September 2016 - Present