Liu(Zuguang Liu)

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Seeking for Full-Time Position Starting May 2021
Interested in Intelligent System & AI Engineering Positions

Citizenship: international student with 3-year working time in USA (and possible 6 more years with working visa)

EDUCATION

M.S. Electrical Engineering, University of Cincinnati, USA   Graduating May 2022
Intelligent Systems track, ACCEND Program   GPA 4.0/4.0

B.S. Electrical Engineering, University of Cincinnati, USA   Graduating May 2021
Mathematics and Embedded Systems minor, University Honors Program   GPA 3.9/4.0

SKILLS

Signals and Systems	DSP, singal transformation methods, control system theory, linear system theory
Intelligent Data Analysis	Classification, clustering, anomaly detection and methods, association analysis
Machine Learning	Image processing, natural language processing and reinforcement learning
AI Implementations	Tensorflow, Scikit-Learn, OpenCV, Pandas, MATLAB
Robotic Engineering	Robotic controls, motion planning, simulation, sensor fusion and computer vision
Software Development	C/C++, C#, Java, Python, MATLAB, SQLite database

EXPERIENCE

Brain Computer Interface (BCI) Research   August 2019 - now
UC HCI Lab   *Cincinnati, OH*

- Apply data analysis methods to spatio-temporal electroencephalographic (EEG) data for classification problem
- Apply machine learning methods to detect human motor imagery intentions using post-processed data
- Assist on a multi-disciplinary robotic project that implements BCI, SLAM and NLP

Electrical Engineer (R&D Co-op)   June - August 2019
Ethicon Endo-Surgery Inc.   *Blue Ash, OH*

- Designed and implemented a dynamic feed-back control system for NFC sensors
- Documented implementation methods, testing procedure and test results
- Presented projects and improvements to managers and peer Co-op students

Engineering Teaching Assistant for Bio-Robotic Class   October 2019 - April 2020
Biology Department, University of Cincinnati   *Cincinnati, OH*

- *Sensing in Animals and Robots* is an NSF funded program that teaches animal sensing by robotic implementations
- Implemented sensor fusion and computer vision algorithms requested by students, and gave lectures on simple algorithms
- Helped the professors organize the class and helped students understand the engineering portion of the class

Electrical Engineer Team Member   August 2019 - now
rLoop - a global, crowdsourced engineering organization

- *Not-A-Boring-Competition* is run by the Boring Company that aims to build a novel tunnel boring system
- Participated as electrical engineer, in charge of the design and implementation of control system and navigation software
- Designed a modified leader-follower control scheme with pure-pursuit algorithm for the proposed final design draft
- Implemented a small-scale indoor SLAM on a RC vehicle for proof-of-concept design

PROJECTS

Neuromorphic Computing Research Developed an analog circuit system to simulate spiking neural signal

Modular Garden Monitoring System An embedded system that autonomously manages garden environment with friendly UI, modular design and wireless communication (senior design, ongoing)

Gas Tracking and Prediction App Used web crawler that collects gas prices, SQL to maintain database and developed early-stage data analysis methods for price prediction

Mask Detection Robot Developing an autonomous system that detects and suggests face masks on a person by a neural network algorithm (ongoing)