Josheta Srinivasan

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EDUCATION

University of Southern California, Viterbi School of Engineering **GPA: 4.0**
B.S. Computer Engineering and Computer Science May 2024
Honors: Center for Undergraduate Research in Viterbi Engineering fellow Fall 2021-Spring 2022
Involvement: Center for AI in Society (CAIS++), Society of Women Engineers, Theta Tau Kappa Epsilon
Relevant Coursework: Data Structures and Algorithms, Probability, Internet of Things, Principles of Software Development, Linear Circuits, Digital Circuits, Linear Algebra and Differential Equations, Calculus 3

Indiana University - Bloomington, Luddy School of Informatics, Computing and Engineering **GPA: 4.0**
Intelligent Systems Engineering (track: Cyber-Physical System), Cognitive Science Jan 2020-May 2021

TECHNICAL SKILLS

Micro-controllers: Raspberry Pi, Arduino, FPGAs | **Technical Writing**: Research reports, summaries and posters; Project documentation; Software documentation; Academic papers | **Programming:** Python, C, C++, Java, Basic Linux commands | **Others:** GitHub

LEADERSHIP EXPERIENCE

Curriculum Lead, Center of AI in Society (CAIS++) **May 2022-Present**
- Lead a group of 5-7 new members through the CAIS++ Machine Learning and Artificial Intelligence curriculum.
- Created Google Collab notebooks to facilitate hands-on learning of AI concepts.

Recruitment Chair, Theta Tau Kappa Epsilon (USC's professional engineering society) **May 2022-Present**
- Organised several social, professional and service recruitment events for 150+ actives and potential new members.

Professional Chair, Theta Tau Kappa Epsilon (USC's professional engineering society) **Jan 2022-May 2022**
- Organised workshops, networking sessions, and industry representative panels for 50+ Theta Tau members.

WORK EXPERIENCE

Course Producer, University of Southern California **August 2022-Present**
- Lead lab sections for Fundamentals of Computation course (CS 102) to review programming concepts discussed in lecture
- Explained technical concepts in clear and understandable ways during weekly office hours in order to provide additional support for students.

Embedded Systems Test Engineering Intern, Cruise LLC **May 2022-August 2022**
- Developed an analysis tool in Python that helped automate stack launch issue identification and developed metrics and trends on issue count and type.
- Tool enabled frequency and probability analysis of issue occurrence to understand and thereby improve systems
- Tool projected to decrease debugging and root cause analysis time by 50% and increase developer productivity by enabling issue prioritisation.

RESEARCH EXPERIENCE

Undergraduate Researcher at RoboLand, University of Southern California **Aug 2021-May2022**
- Building a servo-based robot and synchronising motors and developing gaits.
- Implementing gait adaptation for path selection based on robot-obstacle interactions.

Undergraduate Researcher at the Evolutionary Adaptive Systems Research Group, Indiana University **Aug 2020-May 2021**
- Researched effect of noise in transferring robots from simulation to reality in Evolutionary Robotics.
- Simulated a simple robot in Python and developed a control system by evolving Continuous-Time Recurrent Neural Networks using Genetic Algorithms.
- Presented research at the Midwestern Undergraduate Cognitive Science Conference and awarded 1st place among 8 other presenters.

Undergraduate team member at the BCI-FNIS research group, Indiana University **Jan 2021-Jun 2021**
- Enabled OSC client triggered 'scene' switch functionality by setting up server receiving functions and an OSC client.
- Wrote python classes to convert raw EEG signals into a format acceptable by an existing Convoluted Neural Network employing Fast Fourier Transform and Finite Impulse Response filter; included run-time and memory usage checks to compare between classes.

PROJECTS

Social Queue Detector for members with Autism **Jan 2022-May 2022**
- Designed and created a device that processes images and speech to establish cause-effect relationship between words and emotional response as an aid for members with autism
- Used Machine Learning models to detect emotion through facial recognition and convert speech to text on the cloud, and published data to Raspberry Pi using a MQTT protocol

Distracted-Driving preventing Brain-Computer-Interface **May 2021-Jun 2021**
- Hacked into a 'MindFlex' electroencephalogram (EEG) toy to acquire brain-electrical activity in addition to interaction data (through a physical button) with an Arduino micro-controller.
- Scripted Python code to store serial input data into CSV files and to train a Multi-Layered Perceptron to detect distracted driving (with PyTorch).
- Designed circuitry and wrote memory optimised Arduino code to read brain activity, implement trained Neural Network, and control buzzer for the final Neuro-feedback device.

Single-Legged Robot **Jan 2021-May 2021**
- Designed and constructed a mechanical version of a simulated robot with an Arduino to integrate servos, distance sensors, custom circuit with LEDs and buttons designed on a PCB board, and custom 3D printed parts.
- Developed Computer-Aided Design (Fusion360), Laser Cutting, Soldering, and general Mechatronics skills.