

POOJA KOWSHIK

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Education

University of Southern California, Viterbi School of Engineering

Expected Graduation May 2024

Bachelor of Science in Computer Engineering Computer Science

GPA: 3.95

Involvement/Leadership: IEEE (Corporate Chair), SWE (Freshman Mentor), USC Makers (Membership Director)

Skills

- **Programming Languages:** C++, Python, MATLAB, MySQL, Tableau, PowerBI
 - **Hardware:** Arduino, Raspberry Pi, Adafruit Clue, Consumer Wearables
 - **Awards:** Trustee (Full-tuition) Scholarship; Viterbi Merit Research Fellow; Gold Presidential Volunteer (500+ hours)
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Experience

Medtronic | Littleton, MA

May 2022 – Aug 2022

Neuroscience Software Imaging Engineering Intern

- Designed full-stack application for R&D team to test 4 portable CT image reconstruction pipelines to centralize hardware integration testing and saving over 3 hours per image acquisition
- Streamlined CT to Ultrasound MATLAB script to include customized, simulated image dataset generation of 100s of abdominal images for future machine learning development

Abbott Laboratories | Temecula, CA

May 2021 – Aug 2021

Quality Engineering Operations Intern

- Implemented Process Monitoring Alert Limits (PMAL) and Cpk-based sampling rates for two endovascular stents by analyzing normality of 20+ functional outputs using JMP to assess tolerance prior to out-of-spec exceptions
- Developed branching tracing graphs to visualize correlation between quality exceptions and tolerance limit triggers in Balloon Dilated Catheter (BDC) subassembly processes and finished goods

EverythingALS - Peter Cohen Foundation | Los Angeles, CA

Feb 2021 - Present

Clinical Student Ambassador

- Coordinated weekly remote study sessions for over 500 ALS and Control patients to collect facial and speech metrics for AI algorithms for early disease progression detection
- Optimized patient workflow from consent to Modality.AI account creation to improve participant retention by 42% with weekly outreach initiatives and an automated technical support desk with over 20 requests a week

USC Ming Hsieh Electrical Engineering Department | Los Angeles, CA

Aug 2021 – Present

EE 109 – Introduction to Embedded Systems Course Producer

- Guided class cohort of 200 students through weekly lab sessions, 3 interactive office hours (maintained in-person and virtual support), and provided grading assistance for teaching staff team
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Projects

Crani-Arm | Project Manager | USC Makers Aug 2021 – May 2022

- Led 10-person team in implementing Agile (Scrum, Kanban) methodologies to organize year-long project progression into parallel software and hardware deliverables
- Prototyped EMG sensors on breadboard and PCB to control 5 DOF fine-motor robotic arm using Tensorflow ML, segmented signal processing and OpenCV calibration with the Mediapipe library

Wizard's Chess | USC Makers Dec 2020 – May 2021

- Tested React speech recognition API to detect and interface with motor control mechanisms for validated moves determined with the Python Chess library for vocal controlled, automated chess board

NLP Movie Recommender | Google Explore Computational Media Intelligence Jan 2021 – May 2021

- Built 80% effective algorithm based on a TF-IDF representation of film scripts to pinpoint similarities between genres to develop a classifier and recommender system using cloud-based AWS database

Vocal Tract Model | USC Magnetic Resonance Engineering Lab (MREL) Sept 2020 – June 2021

- Applied guided-PCA and CNNs to expand articulatory parameters to fit over 10 speakers for three vowel sounds and compared variability in anatomical components