ANUJA SHAH

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EDUCATION

University of Southern California, Viterbi School of Engineering *Los Angeles, CA*
Master of Science in Electrical Engineering **Aug 2023 - Dec 2024**
- Machine Learning and Data Science, GPA: 3.85

Bachelor of Science in Electrical & Computer Engineering **Aug 2019 - May 2023**
- GPA: 3.68, Viterbi Dean's List '20 - '23

WORK EXPERIENCE

USC Institute for Technology & Medical Systems Innovation, *Student Researcher* **Aug 2022 - Present**
- Formulate algorithm for region-specific multiresolution voxelization to improve efficiency in terms of computational resources and minimize interpolation error.
- Automate modification of .model files with Python scripting to reduce process time by 30%.
- Generate hippocampal models with differing stimulating electrode positions on suprapyramidal, crest, and infrapyramidal regions for simulation.
- Extract voxel segments close to electrode to determine simulation value of membrane potential and calculated value of average voltage to compare differences between models.

UltraSense Systems, *Electrical Engineering Intern* **Jun 2022 - Aug 2022**
- Designed and 3D printed demo case for new sensor chip with Fusion360.
- Constructed GUI for demo using Bootstrap library, so users could customize haptic, LED, and speaker feedback.
- Tested logistic regression binary classification on registering a touch as press or non-press and found few Type II errors and no Type I errors by partitioning various training and test sets with scikit-learn.

zSpace, *Electrical Engineering Intern* **Jun 2019 - Jul 2019**
- Created a circuit schematic, through reverse-engineering, of device employed in testing durability and longevity of different materials for passive 3D glasses.
- Improved circuit schematic by adding safety features, such as an emergency stop button, and utilized schematic to build additional devices for testing products.

LEADERSHIP & INVOLVEMENT

Freshman Academy Coach **Aug 2022 - Dec 2022**
- Facilitated and supported faculty with class projects and lectures as a teaching assistant.
- Mentored first-year engineering students and fostered a community among students.

USC Solar Car **Sep 2019 - Dec 2020**
- Optimized battery capacity and power output of motors to elucidate highest achievable distance at maximum use.
- Compared solar cells to ideal I-V curve and soldered new ones to replace inefficient cells.

AWARDS & PROJECTS

IEEE AP-S Research Grant (USRS) **Aug 2023 - Present**
- Investigate, using a computational model, desired characteristics of magneto-electric nanoparticles, such as size, quantity, and density, needed to create magnetic field which will generate necessary electric field for stimulating optic nerve to induce regeneration wirelessly and non-invasively.

USC Capstone Project **May 2023**
- Engineered a smart fridge organizer utilizing an ATmega328P and RFID to notify users of food spoilage.

USC IEEE Hack-IoT 1st Place Winner **Apr 2023**
- Developed smart alarm with Arduino UNO R3 and pulse rate monitor to gauge what sleep cycle a person is in so to best rouse closest to set alarm time while avoiding sleep inertia and lethargy.

VOLUNTEERING

The Trevor Project **Jan 2022 - Aug 2022**
- Supported in-crisis LGBTQ+ youth on TrevorChat services as a crisis counselor.

SKILLS

C/C++ | Python | MATLAB | Keras | JavaScript | Verilog | Bootstrap | CSS | HTML | KiCad | Fusion360 | Azure | Soldering | Microsoft Office | Conversational Gujarati