TANISH JAIN

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EDUCATION

Stanford University
Master of Science in Computer Science, Fall 2020 – Spring 2022
Artificial Intelligence Track

University of California, San Diego
Bachelor of Science in Electrical Engineering, Graduated March 2020
Machine Learning & Controls Depth GPA: 3.93/4

WORK EXPERIENCE

Researcher

UC San Diego – Dr. Tara Javidi's Intelligent Drones Lab June 2020 – Present
- Code drone-based Simultaneous Localization & Mapping (SLAM) algorithms.
- Test autonomy and computer vision-based mapping in a simulated environment.

UC San Diego – Dr. Jack Silberman's Smart Wheelchair Lab June 2019 – Mar 2020
- Developed low-level controls for an affordable autonomous wheelchair.
- Implemented mapping and navigation algorithms.

UC San Diego – Dr. Shaya Fainman's Photonics Lab Mar 2019 – June 2019
- Studied epidemic dynamics by using opto-electronically coupled LED arrays as an analogy and ran simulations based on laser rate equations.

Instructional Assistant

UC San Diego Electrical & Computer Engineering Department Sep 2019 – June 2020
- Tutored undergraduate students in the department's LabVIEW Programming course.
- Aided students in developing finite state-machine systems controlled with LabVIEW.

UC San Diego – Physics Department Jan 2019 – Mar 2020
- Tutored undergraduate students for a Relativity & Quantum Physics course.
- Facilitated discussion and problem-solving sessions with students.

Electrical Engineering Intern June 2018 – Aug 2018
AECOM
- Created power network designs for large-scale infrastructure projects based on low and medium voltage design parameters.
- Underwent rigorous training in power systems optimization, as well as examination and quality assurance of network layouts.

PROJECT EXPERIENCE

Gait Correcting Insole for Parkinson's Disease Patients Feb 2019 – Present
- Developed an **insole for Parkinson's Disease Patients** which improves gait.
- Worked specifically on developing a machine learning algorithm to customize corrective feedback for user.
- Won the Popularity Prize at the UCSD ECE Design Competition '19, as the most voted team by patients, doctors and students.

Micromouse Annual Project – Maze-solving Robot Sep 2018 – June 2019
- Worked in a team of 5 to design a **self-directing maze-solving robot.**
- Created searching algorithms to program the autonomous robot and ensure effective software - hardware integration.

12" Sub – Autonomous Miniature Submarine Oct 2018 – June 2019
- Developed a **miniature research submarine** that can run **autonomously.**
- Implemented ML algorithms with microcontrollers to design a low-cost prototype.

Grand PrIEEE Annual Project – Autonomous Vehicle Sep 2017 – May 2019
- Programmed microcontrollers and designed PCBs to build an **autonomous, line-following miniature vehicle.**
- Awarded the **First Place** at the Grand PrIEEE Annual Robotics Competition with the **fastest autonomous vehicle.**

Smart Music Glove – Wearable glove to play virtual instruments Jan 2018
- Used the Qualcomm DragonBoard 410c to design a smart music glove to play virtual musical instruments with hand gestures.
- Received **Honorable Mention** at the H.A.R.D. Hack competition at the University of California, San Diego.

RELEVANT COURSEWORK

- Deep Learning
- Engineering Computation
- Intelligent Systems: Robotics & Machine Intelligence
- Engineering Probability & Statistics
- Linear Systems Fundamentals
- Linear and Nonlinear Optimization with Applications
- Machine Learning

LEADERSHIP

Project Director
Project in a Box (PIB)
June 2019 – Present
- Lead the core technical development arm of the engineering student organization.
- Organize workshops in underserved communities to encourage hands-on engineering skills development

Team Lead & Mentor
IEEE UC San Diego
Sep 2017 – June 2019
- Led a team of 5 to design an autonomous vehicle (Sep 2017 - June 2018).
- Mentored amateur teams to build similar autonomous vehicles (Sep 2018 - June 2019).

AWARDS & ACHIEVEMENTS

- First Place, Grand PrIEEE Annual Robotics Competition
  May 2018
- Outstanding Team Lead, IEEE Annual Project
  June 2018
- Member, Eta Kappa Nu (HKN) – IEEE Honor Society
  Jan 2019 – Present

SKILLS

TECHNICAL SKILLS

Python	C / C++
Tensorflow	LabVIEW
MATLAB	EagleCAD
AutoCAD	3D Printing

SOFT SKILLS
Public Speaking and Presentation
Project Management
Teamwork