Devanshi Jain

J (858)214-4291 ■ djain@ucsd.edu **in** djain18 **Q** devanshi-jain **Q** San Diego, CA

EDUCATION

University of California, San Diego - Junior
Bachelor of Science - Mathematics & Computer Science

2021 - 2024

GPA: 3.4

EXPERIENCE

Software Engineering Intern: Distributed Energy Resources Connect

Oct 2022 - Present

- Developed and implemented efficient algorithms for plug load controller scheduling, resulting in **improved energy optimization** and reduced operational costs.
- Collaborated with a cross-functional team to integrate optimization algorithms into the existing testbenches, ensuring seamless functionality and compatibility.
- Conducted comprehensive data analysis of energy consumption patterns using InfluxDB and presented key insights to stakeholders, enabling data-driven decision-making.
- Contributed to the design and implementation of a user-friendly interface for the plug load controller scheduler, enhancing usability and accessibility for end-users.
- Participated in regular code reviews and quality assurance activities, ensuring code quality, identifying bugs, and implementing necessary fixes for optimal performance.
- Collaborated with the data visualization team to create informative and visually appealing heatmaps, aiding in the identification of energy consumption trends and patterns.
- **Demonstrated strong problem-solving skills** by resolving technical issues and optimizing the performance of the plug load controllers, contributing to a more reliable and efficient system.

Embedded Systems Engineer: Triton Robosub

Nov 2021 - Present

- Passion for marine robotics and a strong background in the development and deployment of autonomous underwater vehicles.
- Scripted signal processing algorithms including extraction algorithms such as for peak detection using cumulative probability, resulting in improved accuracy and robustness of signal analysis.
- Implemented algorithms for direction finding in a hardware-efficient manner on an FPGA. Utilized Xilinx IP to initiate AXI-Lite transactions in simulation to test and validate the implementation.
- Integration of the MUSIC algorithm in Python into the control system of the AUV involved using Vivado to generate RTL for the FPGA by High-level synthesis of the C script.
- Designed and optimized the hydrophone array system to accurately perceive the underwater environment.

Research Assistant: Bioinspired Robotics and Design Lab

Aug 2022 - Sept 2022

• Worked as part of a team on an aquatic soft robotics project to develop a cephalopod-inspired robot capable of cyclic jet propulsion using directional control valves, microcontrollers, and air compressors for shape change.

Teaching Assistant: COSMOS Hacking for Oceans

Jun 2022 - Jul 2022

• Assisted course instructor in teaching students ways to build an autoboat with a buoy, how to monitor, generate and analyze collected sensor data, and use data visualization and analysis tools to present findings.

TECHNICAL SKILLS

Languages: SystemVerilog, Python, Java, C, C++, MATLAB, Julia, SageMath, HTML, CSS. Developer Tools: Xilinx Vivado, Visual Studio, Jupyter, OpenGL, Eclipse, LaTeX, Linux, Github, InfluxDB

AWARDS & FELLOWSHIPS

- Led a 3-part Putnam workshop series on number theory, combinatorics, and algebra - 2021
- Mathematical Contest in Modeling (COMAP) Analytic Measures' Github 2022
- KVPY Fellow Indian Institute of Science 2019,20
- Code In Place Stanford University 2021

- National Scholar IIT Delhi 2019
- Regional Mathematics Olympiad 2017,18,19,20
- Ramanujan Society of Born Mathematics 2016,20
- South-East Asian Mathematics Olympiad Bronze Medal 2018
- International Informatics Olympiad Silver 2018