Devanshi Jain

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EDUCATION

University of California, San Diego - *Junior* **2021 – 2024**
*Bachelor of Science - **Mathematics & Computer Science*** *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