Shreyas Donti

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EDUCATION

University of Massachusetts Amherst | *GPA: 3.82* *Sep 2023 - May 2027*

Bachelors of Sciences in Computer Science & Electrical Engineering (w/ Honors) Amherst, MA

- **Honors** : Chancellor's Award ($16,000/yr), Dean's List (4x)
- **Relevant Coursework:** Data Structures & Algorithms, Computer Systems & Organization, Operating Systems, Computer Networks, Embedded Systems, Linear Algebra, Calculus, Discrete Math, Signals & Systems, Circuits & Electronics

SKILLS

- **Programming Languages:** C, C++, Go, Python, JavaScript, TypeScript, Bash, SQL, HTML/CSS, Assembly, Verilog
- **Frameworks:** React.js, Django, Svelte, Express.js, Matplotlib, SciPy, NumPy, PyTorch, Seaborn, OpenGL3, SDL, GLFW
- **Tools:** VSCode, Neovim, Git, Make, Premake, REST, Docker, Vite, SvelteKit, Slack, Linux, Figma, Node.js, Prisma, SQLite, PostgreSQL, MATLAB, Arduino Uno, Arduino IDE, KiCad, Altium Designer, LTspice, Vivado, Vitis

EXPERIENCES

Research Intern *June 2025 - Present*

Wireless & Sensors Systems Labratory Amherst, MA

- Using Altium Designer to design a Printed Circuit Board for a wind-powered tree wearable intelligent sensing system.
- Researched & found sensor components to reduce power consumption of by 16% and improve battery life by 58%.
- Spearheading the development of an impedance frontend using the AD5940 integrated circuit, and writing C code to test and communicate with the sensor system with STM32F4 ARM Cortex-M4 processor via SPI protocol.

Undergraduate Course Assistant – CS 230: Computer Systems Principles *Jan 2025 - Present*

Manning College of Information & Computer Sciences Amherst, MA

- Teach core systems programming concepts including C, x86 assembly, CPU architecture, virtual memory, threading, and networking to 60+ students.
- Lead two weekly lab sessions; assist with debugging, systems design, and conceptual understanding.
- Grade 50+ assignments weekly and provide feedback to support student learning and performance.

Technology Team Organizer *April 2024 - Present*

HackUMass XII & XIII Amherst, MA

- Developing HackUMass hackathon website alongside a team of 5 using React.js, HTML, and CSS for over 1200 participants.
- Prototyping designs in Figma to improve UI/UX and create a friendly interface, increasing registration by 15% and sponsorship funding by 6% for HackUMass XII.

Undergraduate Research Volunteer *May 2024 - August 2024*

Manning College of Informatics & Computer Sciences Remote

- Collaborated with two peers under a Ph.D. mentor to develop a 1-D Convolutional Neural Network with PyTorch for recognizing using gyroscope and accelerometer IMU data with 92.5% accuracy.
- Applied a low-pass Butterworth filter using SciPy and Pandas to extract 280+ time and frequency-domain features from raw data, improving model performance by 18%.
- Presented findings to 100+ attendees with visualizations using Matplotlib and Seaborn.

Onboard Processing Sub-Team Member *Sep 2024 - Present*

UMass Cubesat Amherst, MA

- Investigating hyperspectral model deployment on FPGA for satellite image processing.
- Using FINN, Vivado/Vitis to compile PyTorch models for AMD Xilinx Zynq Ultrascale+ MPSoC boards.
- Wrote Python and Bash scripts to automate compilation process of models; improved efficiency by 30%.

PROJECTS

Xenon - 2D Game Engine in C++ | *C++, OpenGL, SDL, Git* *Feb 2022 - Jan 2024*

- Built a lightweight 2D game engine from scratch in C++, handling window/input management, audio, and multithreading.
- Designed a high-performance batch renderer capable of efficiently rendering 60,000+ objects per frame at maximum FPS.
- Integrated a Wren virtual machine (VM) frontend to provide a flexible scripting interface for user-defined logic and runtime programmability.

ResumeGen - Resume Generator App | *Svelte, Node.js, Typescript, Express, Prisma, PostgreSQL* *May 2025 - July 2025*

- Designed a full-stack application using a Svelte + Typescript frontend and an Express.js backend to build resumes quickly.
- Utilized PostgreSQL & Prisma ORM for persistent storage; using Passport.js to handle secure user authentication.
- Used Docker Compose to build a multi-container application for project deployment.