Daniel Vayman

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EDUCATION

The University of Texas at Dallas Graduated **May 2025**
B.S., *Computer Science* GPA: 3.62

- Notable Coursework: Artificial Intelligence, Advanced Algorithm Design & Analysis, Programming Language Paradigms, Computer Networks, Operating Systems, Software Engineering, Data Structures and Algorithms, Digital Logic

SKILLS

- **Programming:** C, C++, C#, Java, Python, HTML, CSS, JS, Bash/Shell, XML, MIPS, SQL
- **Frameworks:** PyTorch, TensorFlow, ROS, Docker, CMake, Bazel, PyTest, REST API
- **Networking/Hardware:** GNSS, LiDAR, Radar, IMU, Motors, PID, CAN, Ethernet, TCP/IP, UDP, RTOS, UART, ESP32, Arduino
- **Software:** Linux, MacOS, Windows, Git, VSCode, Microsoft Applications, Jira, Confluence, Xcode

PROFESSIONAL EXPERIENCE

SpaceX Hawthorne, CA
Software Engineering Intern **May 2024 - Aug. 2024**

- Implemented **guidance, navigation, and control flight software** for a nonlinear attitude control system, working with **state machine logic** in C++ and Python, and ensuring reliability with rigorous unit testing.
- Drove **cross-functional efforts with hardware teams** to cut several hours from vehicle operations with software automation.
- Debugged fluid models in **internal simulation software**, and introduced new **application software** tools for sensor taring.
- Observed the **highest industry standards** of software design, testing, review, and verification practices.

Cisco Research Triangle Park, NC
Software Engineering Intern **May 2023 - Aug. 2023**

- Implemented hardware counter configuration on Cisco Firepower devices using C, C++, XML, & IPC, **significantly reducing debugging time** and introducing interface insights for enhanced network monitoring and security measures.
- Spearheaded the enhancement of Cisco ASA CLI by enabling port-channel/LACP management commands using C, **expanding and improving network monitoring and troubleshooting capabilities.**

PROJECT EXPERIENCE

Liquid Propellant Rocket Engine White Paper **Feb. 2025 - May. 2025**

- Developed full **embedded and RF control software stack** for **UTD's first liquid propellant rocket engine** in C++ and Python, using ESP32 and radio modules for wireless actuation, real-time telemetry, safing protocols, and a custom GUI.
- Led **electronics and avionics integration,** including wiring, sensor I/O, power distribution, and UART-based communication.
- **Designed and CAD-modeled the pintle injector**, including orifice sizing, flow testing, SLM printing/fabrication support, and post-processing of threads and mating surfaces.
- Contributed to propellant choice, test stand design, procedure writing, and post-firing analysis across **six hotfire campaigns**.

Navigator https://nova-utd.github.io/navigator/ **Sep. 2022 - Aug. 2024**

- Lead and contribute to the development of the **first open-source, modular, extensive framework** for autonomous driving research, working with **machine learning, computer vision, embedded systems, sensors, networking, and mapping.**
- Use ROS, Tensorflow, and PyTorch to implement industry-leading **GNC and SLAM algorithms** in C++ & Python **from scratch**.

TECHNICAL EXPERIENCE

Nova https://nova-utd.github.io/ The University of Texas at Dallas, Richardson, TX
Project Lead **Sep. 2022 - Aug. 2024**

- **Led UT Dallas's autonomous driving research program** to achieve Level 4 full autonomous driving, managing teams of **12** software developers and **7** hardware technicians, outlining goals, delegating tasks, and fostering individual growth.
- **Oversaw all aspects of our software, embedded, hardware, and control systems** design, development, integration, and deployment, while ensuring efficiency and adherence to safety measures and proper agile development methodology.

ADDITIONAL INFORMATION:
Languages: English, Russian (Intermediate)
Eligibility: US Citizen, Eligible to work in the US for internships and full-time with no restrictions