Daniel Vayman

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EDUCATION

The University of Texas at Dallas — Expected Graduation Date: Spring 2025
B.S., *Computer Science* — GPA: 3.62
- <u>Notable Coursework</u>: 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:** GPS/GNSS, LiDAR, Radar, IMU, Encoders, Motors, Cameras, PID, CAN, Ethernet, TCP/IP, UDP, RTOS
- **Software:** Linux, MacOS, Windows, Git, VSCode, Microsoft Applications, Jira, Confluence, Arduino, Xcode

PROFESSIONAL EXPERIENCE

SpaceX — Hawthorne, CA
Software Engineering Intern — **May 2024 - Aug. 2024**
- Implemented **guidance, navigation, and control flight software** for a <u>nonlinear attitude control system</u>, working with **state machine logic** in <u>C++ and Python</u>, and ensuring reliability with rigorous unit testing.
- Drove **cross-functional efforts with hardware teams** to <u>cut several hours from vehicle operations</u> 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 <u>using C, C++, XML, & IPC</u>, **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 <u>using C</u>, **expanding and improving network monitoring and troubleshooting capabilities.**

TECHNICAL EXPERIENCE

Nova https://nova-utd.github.io/ — The University of Texas at Dallas, Richardson, TX
Project Lead — **Sep. 2022 - Current**
- **Lead UT Dallas's autonomous driving research program** to achieve <u>Level 4 full autonomous driving</u>, managing teams of **12** software developers and **7** hardware technicians, outlining goals, delegating tasks, and fostering individual growth.
- **Oversee 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 <u>agile development</u> methodology.
- Collaborate with team members to design and integrate critical algorithmic/engineering solutions, provide technical direction, review code, and deliver constructive feedback.

FIRST Robotics — Marquette High School, Chesterfield, MO
Co-Captain, Programming Lead, Design Lead — **Aug. 2019 - May. 2022**
- Single-handedly oversaw the development and testing of **computer vision** and **localization** algorithms in **Java** using **Tensorflow/Vuforia**, responsible for successful **embedded software deployment** and **sensor calibration**.
- Recruited, mentored, and managed a team of **20 students**, delegating responsibilities and fostering collaboration.

PROJECT EXPERIENCE

Navigator https://nova-utd.github.io/navigator/ — **Sep. 2022 - Current**
- 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 <u>ROS, Tensorflow, and PyTorch</u> to implement industry-leading **GNC and SLAM algorithms** in <u>C++ & Python</u> **from scratch**.

ADDITIONAL INFORMATION:

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