

Nathan Ramon Lau

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EDUCATION

University of Virginia | School of Engineering and Applied Sciences

B.S. in Mechanical Engineering, Minor in Electrical Engineering

Cumulative GPA: 3.80

Honors: Dean's List (Academic Year: 2024-25)

Charlottesville, VA

August 2024 – May 2027

RELEVANT EXPERIENCE

BIER Lab at UVA

Robotics Researcher

Charlottesville, VA

August 2025 – Present

- Retrofitted a robotic fish drone with computer vision capabilities and developed pressure sensor control algorithms for autonomous navigation through water turbulence
- Streamlined the testing procedures in the lab via the use of Linux based systems and custom Python data analysis tools

Bio-Inspired Underwater Robotic Submersible Team

Lead Engineer

Charlottesville, VA

August 2024 – Present

- Led the Structures and Safety team of 5 students through ground-up designing and manufacturing targeting the 2026 MATE ROV Competition
- Designed and tested the ROV frame using CAD, FEA, CFD and buoyancy calculations to engineer dynamic buoyancy controls for depth adjustment along with a detachable power distribution module

President

August 2025 – Present

- Organized a team of 20+ students, setting goals, structuring timelines to ensure competition readiness as well as creating bill of materials for the 2025-26 academic year

Gizmology

Project Engineer

Charlottesville, VA

August 2025 – Present

- Designed, prototyped, and 3D printed interactive engineering projects for university students, in and around UVA's engineering facilities, showcasing exciting and playful engineering, blending art with technology

Quadruped Robot

Engineer

Arlington, VA

January 2025 – Present

- Built and developed a functional quadruped robot dog, combining mechanical design, firmware development, 3D printing, and servo motors with the goal of walking freely
- Used an Arduino and later an ESP32 to implement robotic motion, utilizing inverse kinematics for leg manipulation
- Set up a ROS2 interface to create gait paths for lifelike animations as well as wireless remote control

WORK EXPERIENCE

University of Virginia Climbing Center

Climbing Center Supervisor

Charlottesville, VA

February 2025 – Present

- Manage daily operations of UVA's Student Climbing Center ensuring safety and community engagement, overseeing crowds of up to 40 people

Arlington County Parks & Recreation

Gymnastics Coach

Arlington, VA

June 2023 – August 2025

- Taught gymnastics and facilitated creative activities for children ages 6 - 10, in groups of 10, changing weekly, for 9 weeks
- Completed safety and inclusion training: workplace safety, injury protocols, fire/hazard response, CPR certified

TECHNICAL SKILLS & ACTIVITIES

Society of Hispanic Professional Engineers: Active member participating in professional development events and attended the 2026 SHPE National Convention

Design and Programming: SolidWorks (CSWA Certified), Fusion 360, AutoCAD, Revit, Onshape, Python, C, C++, MATLAB, HTML, JavaScript, Microsoft 360 (Excel, Word, PowerPoint)

Mechatronics: 3D Printing, Arduino, ESP32, ROS2, Custom PCB Design, G-Code, Injection molding, CNC machining

Languages: Fluent in English and Spanish