

# Carter Long

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SUMMARY	Mechanical engineering sophomore at Virginia Tech seeking a Summer 2026 internship in mechanical design, controls, or systems design. Strong hands on experience with CAD, sensor integration, embedded systems controls, & initial prototyping through different design teams, jobs, & personal projects.		
EDUCATION	<b>B.S. Mechanical Engineering, Minor: Computer Science</b> , Expected graduation: May 2028 Virginia Tech, Blacksburg, VA GPA: 3.97, President's List (Fall 2024 - Spring 2025), Dean's List (Fall 2025)		
SKILLS	CAD:	AutoCAD, Autodesk Inventor, SolidWorks, SolidWorks PDM	
	Software:	MATLAB, LTspice, Arduino, Java	
	Hardware:	Microelectronics, Soldering, Wiring, WoodWorking, 3D Printing	
EMPLOYMENT	<b>Mechanical/Systems Intern: Novarity</b>		<b>Summer 2025</b>
	<ul style="list-style-type: none"><li>Worked as part of a small team to design, build, &amp; test an off-grid fully autonomous ground station using neuromorphic sensors to detect Low Earth Orbit (LEO) satellites</li><li>Responsible for design and testing of visual calibration test stand &amp; algorithm development, through the use of numerical methods, for transforming event based sensor readouts into observation data</li><li>Responsible for overall sub-system physical and mechanical interface design, production (3D printed components), and integration of the remote ground station</li></ul>		
	<b>Summer Swim Coach: Stone Ridge Sharks/Lenah Mill Marlins</b>		<b>Summer 2017-Summer 2024</b>
	<ul style="list-style-type: none"><li>Junior &amp; Assistant coach assisting with organizing and running team practices and events for team of 170 swimmers</li><li>Coached swimmers aged 7-18 to learn all four strokes &amp; increase their swimming proficiency</li><li>Served as a role model for swimmers aged 4-7, teaching them self-proficiency while swimming</li></ul>		
	<b>Lifeguarding: High Sierra Pool Company</b>		<b>Summer 2023-Summer 2024</b>
	<ul style="list-style-type: none"><li>Ensured patron safety and facility operations through active surveillance, chemical testing, and emergency preparedness</li></ul>		
EXPERIENCES	<b>Electric Go-Kart: Personal Project</b>		<b>2025-Present</b>
	<ul style="list-style-type: none"><li>Designed, researched, &amp; manufactured a street legal go-kart as a personal project that implements safety features, using a combination of repurposed and new manufactured components</li><li>Designed an integrated electronic system for throttle/brake control &amp; steering, while also utilizing a rechargeable battery powered electronic system</li><li>Design and constructed an interchangeable suspension system, allowing the go-kart to be converted to a functioning drift-kart and back</li></ul>		
	<b>Astrobotics</b>		<b>2025-Present</b>
	<ul style="list-style-type: none"><li>Worked on chassis/drivetrain for a Mars space rover that investigates a site for life, completes fields tasks, performs dexterous operations, and autonomously traverses terrain</li><li>Tasked with researching motors and gearboxes for competition robot</li><li>Tasked with designing &amp; constructing suspension and stability testing rig for wheels and suspension system to help determine if the system will be able to operate in competition</li></ul>		
	<b>Baja SAE</b>		<b>2024-2025</b>
	<ul style="list-style-type: none"><li>Worked on fleet maintenance team sub-system: tasked with repairing broken parts &amp; keeping vehicles operational</li><li>Helped maintain and keep off-roading competition vehicles running for competitions and testing</li></ul>		
LEADERSHIP & ACTIVITIES	American Society of Mechanical Engineers, 2025-Present Virginia Tech Swim Club, 2024-Present High School Varsity Swim Captain, 2022-2024 High School Marching Band Section Leader, 2022-2024		