

# AMARNATH S. PATEL

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## EDUCATION

<b>University of Central Florida</b>	<b>Undergraduate Student 4.00 GPA</b>
Physics (Optics & Lasers), Mathematics, Computer Science Minor	August 2025 - Present
<ul style="list-style-type: none"><li>Relevant Coursework: Geometric Optics, Matrix &amp; Linear Algebra, Quantum Information Processing, Discrete Computational Structures, Introduction to Theoretical Methods for Physics, Statistical Methods 1</li></ul>	
<b>Florida Atlantic University</b>	<b>3.66 GPA</b>
Computer Science coursework - High School Diploma (111 Credit Hours)	August 2021 - May 2025
<ul style="list-style-type: none"><li>Background in Embedded Systems, UNIX systems</li><li>Relevant Coursework: Data Structures and Algorithms, Computer Logic Design, Matrix Theory, C &amp; C++ programming, Deep Learning, Computer Architecture, Calculus I-III, Differential Equations</li></ul>	

## SKILLS

**Programming Languages:** C/C++, Python, Shell (Fish, Bash, tcsh, Powershell)

**Tools & Frameworks:** Nix, Helix, Docker, Git, AI-LLMs, XMake, CMake, Proxmox, Tailscale

**Operating Systems:** Linux Distributions, BSD, Windows, OpenSolaris

## PROFESSIONAL EXPERIENCE

<b><a href="#">UCF Astrophotonics Lab</a> - Undergraduate Researcher</b>	August 2025 - Present
<ul style="list-style-type: none"><li>Developing software for control systems and data acquisition for optical instrumentation and astronomical applications under Dr. Eikenberry spanning Photonics &amp; Physics departments.</li></ul>	
<b><a href="#">IEEE UCF CPU Project</a> - Kernel Development Team Member</b>	August 2025 - Present
<ul style="list-style-type: none"><li>Developing kernel-level software for RISC-V CPU built from scratch, porting Doom and Quake to custom hardware architecture with 40 other members.</li></ul>	
<b>Teaching Assistant - Employee</b>	August 2024 - May 2025
<ul style="list-style-type: none"><li>Assisted 70 undergraduate students with learning calculus. Part-time position (10h/week).</li></ul>	
<b><a href="#">Advanced Experimental Vehicles</a> - Programmer, Leader, Builder</b>	November 2023 - May 2025
<ul style="list-style-type: none"><li>Developed Electron app using Raspberry Pi 5 for monitoring and controlling solar car systems</li><li>Won 2nd Place in Division and Lockheed Martin Award for “Highest Level of Engineering Excellence” with 20 other people.</li></ul>	
<b><a href="#">FAU Grant-Funded AI Safety Research Project</a></b>	January 2024 - March 2025
<ul style="list-style-type: none"><li>Developed AI/LLM powered research project for writing, grant funded by Florida Atlantic University with HPC access with 5 members.</li></ul>	

## PROJECTS

<b><a href="#">gentec-camera</a></b>	November 2025
<ul style="list-style-type: none"><li>Developed Python SDK wrapper for IR beam profiling camera enabling automated data acquisition, real-time beam analysis, and FITS output for optical instrumentation research</li></ul>	
<b><a href="#">UniUtils</a></b>	October 2023 - November 2024
<ul style="list-style-type: none"><li>Schedule generation tool for students with classroom finder functionality. 1st Place at Night Hacks 2023 hackathon, submitted to ShellHacks</li></ul>	