

Kartik Ananthan

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EDUCATION

University of Pittsburgh | Pittsburgh, PA

B.S. Mechanical Engineering

Frederick Honors College

August 2023 – Present

Anticipated Graduation: August 2027

South Florida State College | Avon Park, FL

A.S. General Biology — Dual Enrollment

Graduated: May 2023

SKILLS

Engineering Fundamentals: Mechanical Design, Mechatronics, Mechanics of Materials, Electrical Circuits, Manufacturing Processes

Programming Languages: Java, Arduino, MATLAB, C

Platforms: SolidWorks, Autodesk Inventor, OnShape, CATIA, GrabCAD, FormLabs, Lightburn, PhotoGrav, WindMil, Athena

Mechanical Focus Areas: Mechanical Design, Prototyping & Tooling, Manufacturing, System Testing, Failure Analysis

WORK EXPERIENCE

Alstom Engineering | West Mifflin, PA

January 2025 – December 2025

Train Subsystems Engineering Co-Op

- Specialized in passenger doors and control panel subsystems, supporting mechanical subsystem integration and design.
- Designed control panel solutions now being implemented across all future international 300R platforms, contributing to standardization of subsystem architecture
- Supported design-for-manufacturing considerations using CATIA and SolidWorks for international transit systems

Train Systems Engineering Co-Op

- Conducted mechanical and system-level testing, including development and execution of test procedures and setups on international APM subsystems to support verification and validation against safety and performance requirements
- Interpreted engineering drawings and applied basic GD&T to verify component tolerances and support acceptance testing

Prothaven | Pittsburgh, PA

August 2024 - Present

Tech Lead

- Provided technical instruction on machinery operation, CAD/technical drawing interpretation, and shop safety procedures
- Supported CNC machining, **3D printing**, and laser cutting to prototype and iterate mechanical components and test fixtures.
- Improved part quality by advising on tolerances, design-for-assembly, and manufacturing processes

Peace River Electric Cooperative | Wauchula, FL

May 2024 - August 2024

Engineering Intern

- Supported engineering design and planning for a 20,000-home electrical distribution project using WindMil
- Installed, programmed, and tested OCR and Viper reclosers to improve system reliability and fault response
- Executed test procedures and field inspections to verify substation equipment performance
- Led the migration from NISC to WindMil software with complete data validation and zero unresolved errors

Mechatronics Lab at South Florida State College | Avon Park, FL

January 2022 - May 2023

Mechatronics Intern

- Maintained and calibrated mechatronics and manufacturing equipment to ensure lab reliability
- Created CAD models and interpreted technical drawings to support fabrication and engraving projects

PROJECTS

PantherRX Opioid Pill Dispenser

May 2026 - Present

- Designed a portable opioid dispensing device to improve post-operative medication adherence through controlled dosing, secure patient authentication, and tamper-resistant mechanical design.
- Created and iteratively refined a gravity-fed dispensing mechanism in Onshape, integrating a motor-driven rotary system, interchangeable pill filters, and break-beam sensing to deliver consistent single-pill dispensing while minimizing jams.
- Collaborated with a multidisciplinary engineering team to prototype a reusable medical device integrating CAD, 3D-printed components, embedded electronics, and user-centered design principles for healthcare applications.

InMoov

August 2020 – Present

Team Lead

- Led the design, assembly, and iteration of mechanical subsystems for a humanoid robot, including actuated joints, structural components, and embedded control integration
- Integrated mechanical actuation with embedded control systems for reliable joint motion
- Identified mechanical binding and alignment issues during testing and iterated joint geometry to improve reliability

Future Farmers of America Agriscience Fair

August 2021 – October 2024

Researcher

- Conducted independent research, analyzed experimental data, and presented technical findings at national competition.