

# Darshan Kumar

## Project Manager & Software Engineer

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## Education

University of Louisiana at Lafayette | IEEE | CAPE | ULift | ESG Grid | Honors College

B.S. Computer Science in Computer Engineering | Senior

Aug 2023 – May 2026

Minor: Mathematics

Key Coursework: Computer Engineering, Data Structures, Cyber Security, Algorithms, Assembly Programming

Project Management Institute (PMP Candidate)

In Progress

3+ years of management experience; currently preparing for PMP certification.

## Experience

CAPE - Cajun Advanced Picosatellite Experiment, Lafayette, LA | Student Research at ULL | August 2023 - Present

- **Lead Software Developer** for the Fall 2023 CAPE weather balloon
  - Developing C code on the STM32 Microcontroller for various sensors through the STM32 IDE
- **Project Manager & Lead Electronics and RF Engineer of ESG Grid** (Experimental Smart Ground-Station Grid), a patented, ITAR Compliant, globally deployed, RF Ground-Station solution
  - Developed the hardware and software for the variable frequency smart ground-station kit, prepared legal documentation, scope of works, block diagrams, technical presentations, and software flow-charts for supervisors and professors.
  - Successfully assembled a moderately sized team of experienced software engineers and business partners from scratch while being the main resource and catalyst for progress.
  - **ULift** - A senior project developing a rocket to launch and deploy the **CAPE-Twiggs satellite** that **relies on ESG Grid** as the main form of communication between the rocket's live video feed and the cube satellite's RF communications.
    - I was the main representative and informational resource for ULift and CAPE for all of their projects requiring RF communication and data handling.

FIRST FRC 3616 - Phenomena Robotics, Lafayette, LA | extracurricular | August 2019 - August 2023

- **Lead C++ Object Oriented Programmer, Robot Technician** | August 2021 - May 2022
  - Responsible for developing C++ code for a robotic subsystem, providing deadlines and accuracy with thresholds of subsystems to management.
- **Project Manager, Lead Electrician** | May 2022 - August 2023
  - Invited to the World Championship under my management, robot driving, and robot repair leadership by winning the **Impact Award** noted as the **most prestigious award** in FIRST Robotics.
  - Conducted project launch and agile development meetings to define project objectives and scope while managing the agenda using Trello and Slack
  - Completely wired and set the new highest standard for electrical management on our robots within 24 hours without help from anyone else, this task has taken industry mentors and students 2 weeks in the past years.

Comeaux High School Library, Lafayette, LA | volunteer | August 2021- May 2023

- **Lead Technician** - The LPSS district technicians were busy with other highschools so I offered my librarian to handle all of the technician tasks at my highschool. The entire year the technicians did not come knowing that I could handle all of the tasks.
- Computer Hardware, Software, and Network Troubleshooting/Repair
- Inventory Management, Bookkeeping, Increased Paperwork Efficiency

## Technical Skills

**Programming Languages:** C++, C, Python, JavaScript, HTML, CSS, Java, Assembly, LaTeX

**Software:** PostgreSQL, GIT, JQuery, Windows OS, Linux OS, WSL & Ubuntu,

**Hardware:** Arduino, MIPS, AVR, VHDL, CAN, SPI, I2C, UART, RF Communication (UHF, VHF, S-Band)

**Tools:** Fusion 360, Altium Designer, Bitbucket, Source Tree, Jira, GitHub, Slack, Microsoft Suite, Cura, Putty

**Hands on Skills:** Soldering, Electronics Prototyping, MultiMeter, Oscilloscope, Power Supply, SDR, Spectrum Analyser

**Other:** Leadership, Agile Development, ITAR Trained

**Languages:** English (Native), Gujarati (Native)

## PERSONAL PROJECTS

- Backyard Patio CAD Drawing for HOA Approval - Approved Drawing
- Custom Secure Lock Battery Packs - 200+ units