

BS ELECTRICAL ENGINEERING, NEW JERSEY INSTITUTE OF TECHNOLOGY

GPA: 3.76

Albert Dorman Honors College Scholar

EXPECTED GRADUATION: December 2027

Experience:

- Pure Power Engineering – Electrical Engineer I Intern
 - June 2026 – August 2026
 - Designed and supported commercial solar PV and energy storage systems ranging from 100 kW to 20 MW
 - Developed AutoCAD engineering drawings, construction documents, and layouts for PV projects under NFPA 70 and IBC code
 - Prepared utility interconnection and permitting packages by collecting technical data and coordinating project requirements
 - Performed PVsyst production modeling, site analysis, and field visits to support design validation and implementation
- Human Friendly Robotics – Robotics Engineer Intern
 - April 2026 – August 2026
 - Built autonomous robots for construction focused on automating repetitive work to improve jobsite productivity and safety
 - Designed and routed a custom embedded robotics motherboard integrated with Teensy-based control, RJ45 sensor interfaces, opto-isolated relay channels, and power distribution, employing oscilloscopes, probing techniques, power supplies, and multimeters

- Implemented transistor-driven relay control with flyback protection for noise immunity, switching reliability, and interface safety
 - Developed scalable PCB architecture to centralize wiring, simplify debugging, and deployment across projected 80+ robot fleet
- NJIT – Ubiquitous Networking and Intelligent Computing System Lab Undergraduate Researcher
 - May 2025 – August 2026
 - Engineered an edge-to-cloud computing pipeline using a TRAXXAS platform to reduce latency and computation cost
 - Validated performance through CARLA simulations demonstrating 70% improvement in response time
 - Presented in a research symposium as part of the UTRI, GHRI, and HSRI in ten-week Internship
 - Collaborated with PhD researchers, cross-disciplinary faculty, and Siemens research leadership
- NJIT – Fundamentals of Engineering Design Teachers Assistant and HKN Tutor
 - September 2025 – December 2025
 - Supported five sections with 150+ students through lab instruction, grading, and technical demonstrations
 - Led tutoring sessions for IEEE-HKN covering circuits, Arduino programming, and electronics fundamentals
 - Utilized waveform generators, multimeters, DC power supplies, and Arduino IDE to guide student labs

Projects:

- NJIT Solar Car Team – President/Re-Founder
 - February 2025 – Present
 - Re-founded and led NJIT's Solar Car Team, managing 20+ board members and 60+ development team members across all sub-teams
 - Drive full-vehicle development across battery management, fire suppression, power distribution for low and high voltage, central control system, embedded display, autonomous system, composite body, steering and suspension, wheels and brakes, and chassis
 - Developed sponsorship and university engagement strategy contributing to \$120,000+ in sponsorships for the NJIT's program
 - Built project structures enabling capstone, research credit, and cross-functional engineering development for students
 - **NON-PFAS FIRE SUPPRESSION SYSTEM FOR BATTERY PACK**
- [STM32-Based Brushless Motor Controller with Regeneration - Senior Capstone Project](#)
 - August 2026 - Present
 - Developing a regenerative STM32-based traction inverter in Altium to drive a 3 kW BLDC motor from a 72 V battery pack using FOC and SVPWM
 - Implementing PWM generation, current sensing, protection logic, fault detection, and CAN/Ethernet communication for real-time motor control optimized for EV-related student team use

- Designing a product-style interface for current limits, operating parameters, telemetry, fault-code reporting, and automatic shutdown
- [Power Tool Battery Pack with Custom Battery Management System – Personal Project](#)
 - September 2026 – Present
- NJIT Autonomous Racing – Student Advisor
 - September 2026 – Present
 - Developing an autonomous vehicle for the 2027 IGVC using NVIDIA Jetson computing and Intel RealSense depth cameras
 - Integrating perception, localization, path planning, and motor control for real-time autonomous navigation
- [Open-Loop Synchronous Buck Converter – Electronic Circuit Design Project](#)
 -  ECE 371 Final Project
 - April 2026 – May 2026
 - Developed a hardware-controlled synchronous DC-DC buck converter using PWM duty-cycle control, bootstrap high-side gate driving, and dual MOSFET switching for efficient step-down voltage
 - Designed and routed the printed circuit board in KiCad, validating output ripple, load behavior, and switching performance through LTspice simulation across multiple current loads
- [NJIT IEEE Geoscience and Remote Sensing Society – President](#)
 - January 2026 – Present
 - Managing the design, development, and preparation of a high-altitude weather balloon payload capable of collecting atmospheric data

- Applying for International NASA Funded NJ Consortium Grant
 - Research component of collecting special data in relation to solar eclipse event in 2027
- Navigation-based Autonomous Vehicle with Integrated Security – Smart Campus by Verizon
 - October 2025 – December 2025
 - Developing an autonomous delivery robot to demonstrate secure, efficient last-mile package transport
 - Competing in a Verizon-sponsored innovation challenge for student project funding and recognition
 - Building a self-driving delivery system with integrated locking, real-time app controls, and on-device navigation and telemetry
- Moisture Meter – Fundamentals of Engineering Design Project
 - September 2024 – February 2025
 - Developed an automated humidity-control system using a soil moisture sensor and ESP32 web interface
 - Selected to present at the Newark College of Engineering First-Year Design Showcase, earning second place

Extracurriculars:

- NJIT IEEE Student Branch – Vice-President, Executive Chair, Conference Chair
 - January 2025 - Present

- Serve as Vice President of NJIT IEEE Student Branch while leading large-scale technical programming, sponsorship outreach, and student engineering initiatives
- Executive Chair for MakeNJIT Hardware Hackathon, directing logistics, outreach, marketing, finance, and sponsor relations for a 250+ participant hardware-focused engineering event bringing in over \$80,000+ in sponsorships
- Conference Chair for the 2027 IEEE Region 1 & 2 Student Activities Summit with a \$50,000+ sponsorship target and 250+ projected student participation from 10+ states, hosting various workshops and competitions in multiple disciplines of electrical engineering

Research:

- Satellite Connectivity to Offer Affordable High-Speed Internet Access to Rural Areas
 - September 2024 – December 2024
 - Evaluated satellite alternatives to fiber networks and their feasibility for rural deployment through Starlink
 - Assessed potential impacts on telehealth, online education, and community services, especially solutions for rural deployment
 - Presented findings at the Honors Interdisciplinary Research forum

TECHNICAL: Soldering, electrical circuits; AutoCAD, Fusion360, SolidWorks, OnShape, PVsyst, NI Multisim; Microsoft Suite; Java, C++, Python, RISC-V, MATLAB; Ubuntu; Computer Vision; Power Electronics; KiCad; CNC Machining

OTHER PROJECTS

 NJIT Solar Car Embedded Display and Autonomous System Research Proposal

 Battery Management Unit and Fire Suppression URI Proposal