

YANN VICTOR ALAM

Electrical Engineering B.S. Candidate | Communications | Embedded Systems

Newark, NJ | (914) 268-8011 | yva@njit.edu | linkedin.com/in/yann-alam

EDUCATION

New Jersey Institute of Technology, Newark College of Engineering

Newark, NJ

Bachelor of Science in Electrical Engineering

Expected May 2027

GPA: 3.7/4.0 | Coursework: Signals & Systems, Digital Design, Microprocessors, Electronic Circuits, Energy Conversion, Machine Learning, Computer Communication Networks

PROFESSIONAL EXPERIENCE

HNTB Corporation

Parsippany, NJ

Intern Engineer, Intelligent Transportation Systems & Traffic

May 2025 - Aug 2025 | May 2026 – Aug 2026

- Selected to return for a second internship supporting the design, field verification, and documentation of electrical, communications, and control systems across transportation projects.
- Developed temporary fiber-optic communications plans for the Newark Bay Bridge, laying out conduit routes and pull boxes and calculating quantities for more than 16,000 LF of conduit.
- Troubleshoot a three-zone overheight vehicle detection system at the Lincoln Tunnel Manhattan approach by tracing alert and fault signals across roadside equipment and communication cabinets; isolated configuration and wiring discrepancies.
- Produced MicroStation rack elevations and communications hub diagrams documenting fiber patch panels, network switches, port assignments, cross-connects, and existing field conditions.
- Built an AI-assisted standards-retrieval proof of concept by structuring metadata for standard drawings and specifications, then mapping related requirements.
- Prototyped a mobile over-height vehicle notification workflow for the Port Authority Police Department at the Lincoln Tunnel, linking a relay to MQTT, Node-RED, and Pushover so field detections trigger near-real-time alerts beyond the staffed control booth.

SELECTED PROJECTS

IoT Plant Care Platform | Python, Flask, SQLite, ESP32

Jan 2026 - Present

- Built a Flask/SQLite web platform linking an ESP32 moisture sensor through authenticated APIs for on-demand readings, historical logs, and individual plant tracking.
- Integrated an LLM-assisted feature that combines plant profiles with live sensor data to generate context-specific care recommendations.

Real-Time Aircraft Approach Display | C++, ESP32, REST APIs, LCD

Feb 2026 - Mar 2026

- Programmed an embedded display that retrieves live flight data and identifies aircraft approaching EWR using geospatial rules for position, heading, altitude, and distance.
- Presented aircraft identification and approach information on an LCD in near real time, synchronized with visible landing traffic.

Transformer & Induction Motor Characterization | Transformers, Three-Phase Systems

- Performed transformer open- and short-circuit tests and used measured voltage, current, and power to derive equivalent-circuit parameters, voltage regulation, and efficiency.
- Evaluated three-phase induction motor performance under load by analyzing current, speed, and power factor.

Real-Time Parking Occupancy System | Arduino, Sensors, LCD, Web Interface

Jan 2023 - Dec 2023

- Developed a sensor-based parking occupancy system that detects individual space availability and processes real-time conditions using an Arduino-based controller.
- Integrated local LCD/status indication with a web interface that updated live occupancy data as parking conditions changed, connecting physical sensing with a remote user-facing display.

TECHNICAL SKILLS

Engineering & Design: MicroStation, OpenRoads Designer, Bluebeam Revu, MATLAB, Simulink, Multisim

Programming & Embedded: C++, Python, SQL/SQLite, Flask, REST APIs, Arduino, ESP32

Systems & Test: Fiber-optic communications, three-phase power, transformers, circuit prototyping, signal tracing, oscilloscopes, digital multimeters

Technical Documentation: Microsoft Excel, PowerPoint, Word, SharePoint

LEADERSHIP & INVOLVEMENT

Society of Hispanic Professional Engineers, NJIT - Public Relations Committee Officer

Sep 2024 - May 2025

Supported chapter communications, employer-sponsored events, and student programming for more than 200 active members.

Lebanese Student Association, NJIT - Public Relations Director

Sep 2023 - May 2024

Coordinated event promotion, campus outreach, and communications supporting cultural programming and student engagement.