JAMES CONLON

Rutherford, NJ | proconlon@proton.me | github.com/proconlon | linkedin.com/in/proconlon | 201-600-1119

Education

Boston University **Expected May 2026**
B.S. in Computer Engineering with CS Minor; GPA: 3.39 Boston, MA

Relevant Coursework

- Computer Organization
- Intro Logic Design
- Applied Algorithms
- Operating Systems
- Computer Networking
- Differential Equations
- Software Design

Experience

ei^3 : Industrial Internet Intelligence **June 2024 – Present**
Embedded Software & Security Intern Pearl River, NY

- Developed custom integrations for MQTT data collection, a Linux-based OpenVPN connector, and a REST API endpoint, enabling competitor devices to integrate with ei^3 cloud solution and hardware edge devices.
- Simulated a factory network with OPC-UA data collectors, visualization tools, and PLCs to evaluate how edge devices enhance machine efficiency and shop floor effectiveness for operators.
- Developed and deployed a Java extension for an industrial edge device, integrating VPN service and data collection directly with ei^3's cloud platform.
- Conducted security and penetration testing to assess ei^3 and competitors' VPN/Remote Access features and adherence to risk management frameworks, including Zero Trust Architecture (ZTA) and ISO/IEC compliance in industrial settings.
- Benchmarked ei^3's industrial IoT suite against key competitors, analyzing technical capabilities and user experience to identify strengths and areas for improvement in Remote Access/VPN and Data Collection features.
- Conducted business and SWOT analysis with documentation, providing strategic insights for marketing, sales, and product development teams.

BU Information Services & Technology **August 2022 – Present**
IT Support Specialist Boston, MA

- Diagnosed and resolved a range of hardware and software issues, including Windows/Mac/Linux support, academic software, networking, and identity verification.

Projects

FPGA-Based Keyboard Synthesizer | *Verilog, FPGA, Digital Signal Processing, Team Project* **December 2023**

- Developed a digital synthesizer on Artix-7 FPGA, enabling simulation of musical notes and octaves.
- Designed a module for generating PWM signals with variable duty cycles to simulate sound waveforms including square, sine, and triangle waves.
- Integrated PS/2 keyboard input for control, along with a 7-segment display and audio output for feedback.
- Collaborated with team to address challenges such as sound generation and timing issues related to waveform indexing.

Android App: Boston Where Are U | *Android SDK, Java, Team Project* **December 2023**

- Programmed an Android game for BU students that challenges players to identify local landmarks using a custom built map interface.
- Set deadlines for project development, integrated UI elements and backend logic.
- Implemented key features including custom overlays, TouchImageView map integration, and backend game management system with Android navigation components for fragment management.

Room Occupancy Monitor | *Arduino, C++, Onshape, Team Project* **April 2024**

- Collaborated on development of device to monitor the occupancy of a room to prevent overcrowding and create a mechanical barrier to entry.
- Primarily responsible for coding occupancy tracking, integrating various sensors (infrared, ultrasonic) and input/output devices to maximize accuracy and reliability.
- Developed a heuristic algorithm to manage ambiguous sensor data and varying traffic patterns, enhancing the accuracy of room occupancy monitoring.

Technical Skills

Languages: C++, Java, Verilog, Python, Bash
Networking and IoT: VPN Configuration, MQTT, REST API, TCP/IP, Wireshark
Tools and Software: Linux, Arduino, MATLAB, Android SDK, Onshape, Kali Linux, Git
Other Skills: Industrial IoT, Network Troubleshooting, Technical Writing