SAWYER BOWERMAN

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EDUCATION

University of Massachusetts - Boston **Boston, MA**
Bachelor of Science: Computer Science and Mathematics *May 2026*

- **GPA: 3.5 – Dean's List**
- **Relevant Coursework:** Data Structures & Algorithms, Systems Programming (C, Assembly), Computer Vision, Compiler Design, Operating Systems, Functional Programming (Racket), AI (Python)
- **Introduction to Computing Teaching Fellow & Grading Assistant:** Taught classes/facilitated test prep to 200+ students
- **Undergraduate Research Fellow:** Developed automated computer vision pipeline for real-time detection and tracking of extracellular vesicles in microscopy video data. (Can be viewed on my GitHub)
- **STEMPOWER Research Fellow (Alfred P. Sloan Foundation) - 2% Acceptance Rate:** Spearheaded migration of legacy MATLAB jamming algorithms to Python for improved computer vision and Machine Learning integration. Collaborated with graduate team to modernize signal processing codebase and enable CV framework compatibility.

PROFESSIONAL EXPERIENCE

Exelon – PECO **Malvern, PA**
Software Engineering Intern - Data Systems *June 2025 – August 2025*

- Automated extraction and classification of 1,000,000+ equipment maintenance records from Cascade databases using **Python, SQL, NLP**, improving workflow efficiency and system resiliency in an Agile environment.
- Developed automated weekly reporting pipelines (**Python, SQL**) to filter and flag 30,000+ transmission/substation assets missing maintenance triggers, reducing manual effort and increasing reporting accuracy to 96%.

CRK Properties **Baltimore County, MD**
IoT & Embedded Systems Engineer *May 2023 – August 2023*

- Engineered a WAN-enabled IoT leak detection system (**embedded sensors, microcontrollers, network protocols**) that detected 94% of leaks in a test environment, enabling automated monitoring and early alerts to minimize commercial building water damage.

Vote Jobs Maryland **Baltimore, MD**
Data Engineer *July 2021 – August 2021*

- Built an automated legislative web scraping system (**Python**) to process 100,000+ voter records with 99.8% accuracy, reducing manual data entry time by ~80 hours.
- Ensured 100% data integrity for electoral information through automated multi-check workflows (**Python, Pandas, SQL**).

Barcoding Inc. **Baltimore, MD**
Process Automation Engineer *March 2020 – June 2021*

- Developed automated pipelines (**Python, SQL**) for RFID product tracking and operational metrics extraction, achieving 100% accuracy and reducing manual reporting by 40%.

TECHNICAL SKILLS

- **Languages:** Python, Java, C#, C, C++
- **Tools:** Git & GitHub, SQL, Machine Learning/AI, Raspberry Pi/Arduino/ESP32, Docker, Anaconda, Agile/GitHub Actions
- **Platforms:** Windows10, MacOS, Linux (Ubuntu, Debian)

PROJECTS & OUTSIDE EXPERIENCE

Relevant Personal Projects **Boston, MA**
Personal Projects *2023-2025*

- **Developed "Rigid" - a real-time gesture-controlled VST3 audio plugin** using JUCE framework and computer vision, enabling hands-free audio effect manipulation across major DAWs (FL Studio, Ableton Live, Logic Pro).
- **Implemented OSC protocol for low-latency communication** between Python-based gesture classifier and C++ audio plugin, achieving real-time gain automation and granular audio effects triggered by palm/fist gestures.
- **Integrated webcam-based hand tracking** with custom machine learning classifier, eliminating need for wearable hardware while maintaining professional audio production workflow compatibility.
- **Designed Python-based automated trading system** implementing mean-reversion strategies with Tesseract OCR for real-time market data extraction, achieving high performance across 500+ backtested trades with automated risk management.
- **Developed Python web crawling utility** that automatically searches and analyzes README files across GitHub repositories based on user-specified keywords, demonstrating web scraping and automation skills.
- **Developed a terminal-based wordle clone** running in linear time complexity.

ACTIVITIES & LEADERSHIP

Algorithms Club **Boston, MA**
Club Leader *November 2022 – Present*

- Led 30+ Coding Sessions with a wide group of peers to strengthen their programming and technical skills through Leetcode and Codewars, achieving top 28% global ranking on Leetcode platform.

Umass Boston Music Production Club **Boston, MA**
Council Member *September 2024 – Present*

- Served as a workshop presenter and advisor, working closely with leadership to inform key decisions and run meetings.