Mark Runkle

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Education

Aurora University **GPA: 3.9** **December 2026**

Bachelor of Science in Computer Science and Cybersecurity *Aurora, Illinois*

- **Relevant Coursework:** Data Structures and Algorithms, Object-Oriented Programming, Operating Systems, Web Application Development, Programming Languages, Network Security, Computer Security, Computer Architecture

Experience

Aurora University **March 2024 – Current**

Campus Public Safety Student Worker *Aurora, Illinois*

- Conduct systematic patrols of campus buildings, parking lots, and properties, identifying potential security risks and ensuring safety protocols are followed.
- Monitor and report irregular activities during events using radio communication systems to ensure real-time data relay and fast response times.
- Execute incident response by providing foot escorts and offering emergency assistance in a timely, organized manner.
- Document and report operational status of facilities, contributing to decision-making and improving safety measures on campus.

Projects

Compiler Project | *C++* **April 2025**

- Designed and implemented a **multi-phase compiler** for a custom language, including **lexical analysis**, **parsing**, and **runtime interpretation**.
- Built a lexical analyzer to tokenize source code into keywords, identifiers, constants, operators, and punctuation.
- Developed a **recursive-descent parser** to validate program structure and enforce grammar rules.
- Engineered an interpreter using a simulated runtime with an **instruction table**, **program counter**, **variable table**, and **symbol table**.
- Applied **compiler theory** and **object-oriented principles** to create a modular, extensible architecture.

Raspberry Pi Motion Detector | *Python, Hardware, Linux* **March 2025**

- Created a real-time motion detection system using Raspberry Pi, PIR sensor, and LED for event monitoring.
- Integrated **GPIOZero** to enable responsive LED activation via a breadboard circuit.
- Built a Tkinter GUI with arming/disarming controls and a **password-protected disarm feature**.
- Added audio and visual alerts using **Pygame** for enhanced system interactivity.

Yahtzee Web App | *JavaScript, HTML, CSS* **November 2024**

- Developed a browser-based Yahtzee game with **dynamic scoring** and official rule implementation.
- Created a responsive layout using **CSS Grid** for cross-device compatibility.
- Integrated **local storage** with **JSON** to persist game sessions.

Feed Simulator for Social Media Platforms | *Java* **October 2024**

- Simulated real-time feed updates across multiple platforms with customizable behavior.
- Applied **Strategy**, **Observer**, and **Factory** design patterns for modularity and scalability.
- Used Java collections and file I/O for efficient data parsing and storage.

Skills

Languages: Java, C++, Python, JavaScript, HTML, CSS
Technologies & Frameworks: GitHub, Spring Boot, Bootstrap
Developer Tools: IntelliJ, WebStorm, VS Code, Cursor
Other: Problem solving, Team collaboration, Time management, Attention to detail

Extracurricular

Computer Science Club **Fall 2024 – Present**

Member *Aurora University*

- Organized or facilitated club activities, improving event planning and leadership experience within a tech-focused community
- Attended workshops and presentations on emerging tech topics, staying up-to-date with industry best practices.
- Initiated a personal or group project with club members, demonstrating project management and technical execution from idea to completion.