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 & Algorithms, Object-Oriented Programming, Web Application Development, Database Design, Programming Languages, Operating Systems, Computer Architecture

Technical Skills

Languages: Java, C++, Python, JavaScript, HTML/CSS, SQL
Frameworks & Libraries: Node.js, Express.js, Spring Boot, Handlebars, Bootstrap
Developer Tools: Git, GitHub, MySQL, IntelliJ IDEA, VS Code, Linux
Core Competencies: Object-Oriented Programming, Data Structures & Algorithms, RESTful APIs, Database Design, Full-Stack Development

Projects

Student Roster CRUD Application | *Node.js, Express.js, MySQL, Handlebars*   **November 2025**
- Developed a full-stack web application with complete **CRUD operations** for managing student records using server-side rendering and the **MVC architecture pattern**.
- Implemented **RESTful API endpoints** with proper HTTP methods and engineered **server-side validation** for data integrity with user-friendly error handling.
- Built dynamic search functionality using **parameterized SQL queries** to prevent SQL injection, and designed responsive UI with **Bootstrap 5**.

Compiler Project | *C++*   **April 2025**
- Designed and implemented a **multi-phase compiler** for a custom language, including **lexical analysis**, **syntax parsing**, and **runtime interpretation**.
- Built a lexical analyzer to tokenize source code and developed a **recursive-descent parser** to validate program structure against defined grammar rules.
- Engineered an interpreter with simulated runtime environment including **instruction table**, **program counter**, and **symbol table**.
- Applied **compiler theory** and **object-oriented design principles** to create a modular, extensible architecture supporting future language features.

Raspberry Pi Motion Detection System | *Python, Hardware Integration, Linux*   **March 2025**
- Engineered a real-time motion detection system integrating Raspberry Pi hardware with PIR motion sensor and LED components for security monitoring.
- Developed **Tkinter-based GUI** with password-protected authentication system for arming and disarming security controls.
- Implemented event-driven programming using **GPIOZero** and **Pygame** libraries for responsive hardware interactions and multimedia alerts.

Yahtzee Web Application | *JavaScript, HTML, CSS*   **November 2024**
- Built a browser-based implementation of Yahtzee with **dynamic scoring logic** and complete game rule enforcement for all scoring categories.
- Designed responsive layout using **CSS Grid** and implemented **client-side state management** with local storage for session persistence.
- Created interactive dice selection system with event-driven JavaScript for real-time game state updates and user feedback.

Experience

Aurora University   **March 2024 – Present**
Campus Public Safety Student Worker   *Aurora, Illinois*
- Conduct systematic patrols of campus facilities and properties, identifying security risks and ensuring compliance with safety protocols.
- Monitor and document irregular activities during campus events using radio communication systems for real-time coordination and rapid response.
- Execute incident response procedures including emergency assistance and foot escort services, maintaining detailed operational reports.
- Collaborate with team members to assess and improve campus safety measures through documentation and data-driven recommendations.