James Williams

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EDUCATION

Michigan State University, Honors College   East Lansing, Mi
Bachelor of Science, Computer Science, GPA: 3.9   May 2024 - May 2028

SKILLS

- **Python, C++, Java, Javascript, SQL, Swift**
- **HTML, CSS**
- **VS code, AWS tools, Microsoft Excel, Github**

PROJECTS

NeuralDB: AI-SQL Engine (C++, Python, HTML/CSS/Javascript)

- Engineered a high-performance SQL engine in C++ with AI-driven query optimization and predictive analytics
- Developed an AI-powered query optimizer analyzes performance metrics to refine execution plans
- Implemented natural language query processing, converting user-friendly inputs into optimized SQL queries
- Designed an adaptive indexing system dynamically improves query efficiency based on data usage
- Integrated anomaly detection algorithms to identify irregularities in relational datasets
- Built a web-based UI for interactive database management and visualization of AI-driven insights.

ORGANIZATIONS

Precision Agriculture Robotics Club   East Lansing, Michigan
Vision and Navigation Systems Engineer   September 2024 - Present

- Collaborated with a team of 15 members to create an autonomously controlled robot using Python and C++
- Programmed vehicle control systems with microcontrollers (e.g., Arduino, Raspberry Pi) to automate sensor feedback, enhancing robot efficiency and accuracy

AI Club   East Lansing, Michigan
Student Member   September 2024 - Present

- Developed AI models for real-world applications, such as predictive analytics, improving hands-on experience in AI research and development
- Explored generative AI techniques and ethical considerations in machine learning applications through club workshops and seminars

FRC Robotics Team 815   Allen Park, Michigan
President and Software Engineering Lead   January 2021 - August 2024

- Leadership: Directed a team of 20+ members, delegating tasks, supervising project timelines, and ensuring team cohesion
- Project Management: Led design, development, and deployment of competition-ready robots, encountering strict deadlines to decrease deadlines confronted by 80%

CERTIFICATIONS

CS50X | Harvard University

AWS | Cloud Practitioner Essentials

Microsoft Excel | Advanced and Data Analysis Skills