

Rafael Watts

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SUMMARY

Dedicated engineering student with a keen focus on automation and manufacturing processes. Gained valuable hands-on experience through academic projects and collaborative work, showcasing the ability to implement engineering principles effectively. Eager to contribute to dynamic teams that prioritize innovation and efficiency in manufacturing operations. Proven skills in developing automated systems lead to improved productivity and quality outcomes. Passionate about leveraging advanced technologies to enhance industrial processes, drive continuous improvement initiatives, and engage in effective problem-solving efforts.

EDUCATION

Bachelor of Science in Mechanical Engineering
Georgia Institute of Technology GPA: 3.8
Coursework: Thermodynamics, Fluid Mechanics, Control Systems, Robotics

2026
Atlanta, GA

TECHNICAL SKILLS

- **Programming Languages:** C++, Python, MATLAB
- **Simulation Software:** MATLAB, Simulink, AnyLogic
- **Robotics Platforms:** Arduino, Raspberry Pi, National Instruments
- **Automation Tools:** PLC, SCADA, HMI
- **Design Software:** SolidWorks, AutoCAD, CATIA
- **Testing Equipment:** Oscilloscope, Multimeter, Logic Analyzer
- **Data Analysis Tools:** Excel, Minitab, Tableau
- **Version Control:** Git, Subversion, Bitbucket
- **Methodologies:** Agile, Lean, Six Sigma
- **Operating Systems:** Windows, Linux, MacOS

SKILLS

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|----------------------------|----------------------|-------------------------|-----------------------|
| • PLC Programming | • Project Management | • Data Analysis | • Problem-Solving |
| • Robotics | • Electrical Systems | • Simulation Modeling | • Team Leadership |
| • Automated Systems Design | • Mechanical Systems | • Engineering Design | • Process Improvement |
| • Technical Documentation | • Field Testing | • Workflow Optimization | • Documentation |

EXPERIENCE

Automation Systems Developer
University Project

January 2025 - Present
Atlanta, GA

Oversaw an innovative project focusing on developing automated systems specifically for sorting tasks. This experience involved not only direct technical contributions but also effective team leadership to ensure project deadlines were met and goals achieved.

- Directed development of an automated sorting system, enhancing processing speed significantly.
- Implemented PLC programming, which improved operational reliability and overall efficiency.
- Conducted rigorous testing of machinery, ensuring compliance with established safety standards.
- Collaborated closely with peers to create a user-friendly interface for effective system monitoring.
- Documented all phases of the project, preparing comprehensive presentations for faculty and industry feedback.
- Showcased project at University Engineering Expo, receiving positive responses from attendees.

Engineering Research Assistant
Academic Research

September 2024 - December 2024
Atlanta, GA

Supported significant research focused on robotics applications within manufacturing. Designed simulations and analyzed workflow efficiencies while collaborating on research papers with industry experts.

- Assisted in researching robotics applications aimed at optimizing workflows within manufacturing setups.
- Developed simulation models to analyze robotic systems' effectiveness in production lines.
- Handled data analysis duties and contributed substantially to formulating published research findings.

- Worked alongside faculty members to develop solutions addressing common manufacturing challenges.
- Presented key research findings at a local engineering conference, sharpening public-speaking skills.
- Gained invaluable insights into industry-leading practices and technological advancements.

Team Member

March 2024

Hackathon Project

Atlanta, GA

Participated actively as part of a team dedicated to creating an automated inventory management prototype. The project's success hinged on creative problem-solving and rapid prototyping within strict time constraints.

- Collaborated on the development of a prototype aimed at automating inventory management processes.
- Utilized advanced vision systems to monitor inventory levels and streamline reordering.
- Received recognition for presenting an innovative approach with potential impacts on supply chain efficiencies.
- Engaged in iterative testing methods in a fast-paced environment to meet projected timelines.
- Thoroughly documented each step in the development process, producing a detailed project report.
- Presented the prototype at a regional hackathon, earning second place from various participants.

LEADERSHIP & AWARDS

- Dean's List, Georgia Institute of Technology, 2024, 2025
- First Place, University Robotics Challenge, 2024

CERTIFICATIONS

- Certified SolidWorks Associate (CSWA) 📅 2025
- PLC Programming Fundamentals 📅 2026

PROFESSIONAL AFFILIATIONS

- Member, Engineering Student Society, 2023 – Present
- Volunteer, STEM Outreach Program, 2023 – Present

LANGUAGES

- English (Native)
- Spanish (Proficient)

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST