

# JAY S. GENITA

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## Computer Engineer

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### CAREER SUMMARY:

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Highly motivated Computer Engineering graduate specializing in AI-driven systems and automation. Proven expertise in Python and JavaScript through internationally published research and professional internships. Experienced in hardware-software integration and modern full-stack development, with a lifelong passion for diagnosing and optimizing complex technical systems.

### TECHNICAL SKILLS

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- **AI & Machine Learning:** YOLOv8 (Object Detection), OpenCV (Computer Vision), Model Hosting, and Real-time Video Stream Processing.
- **Automation & Robotics:** ESP32 & Arduino Programming, Autonomous Navigation, Obstacle Avoidance Systems, and Wi-Fi Command Integration.
- **Software Development:** Python, JavaScript, TypeScript, C/C++, HTML5, and CSS3.
- **Frameworks & Libraries:** Angular Framework, RESTful APIs, and Spatial Analysis Techniques.
- **Tools & Platforms:** Git/GitHub, GIS Software (Mapping & Data Entry), and Professional Development Environments.
- **Systems & Operations:** Scrum/Agile Methodology, Systematic Troubleshooting, Hardware Diagnostics, and Quality Control/Testing.

### ACCOMPLISHMENTS AND PROJECTS

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#### Thesis: Autonomous Fire Extinguishing Robot (Published Research) | 2025

(<https://doi.org/10.1109/IDAP68205.2025.11222284>)

- AI Automation: Developed an autonomous robotic system using Python, YOLOv8, and OpenCV for real-time, high-accuracy fire detection from video streams.
- Embedded Systems: Programmed ESP32 and Arduino in C/C++ to manage navigation, obstacle avoidance via ultrasonic sensors, and Wi-Fi command reception.
- International Publication: Research published at the 2025 9th International Artificial Intelligence and Data Processing Symposium.

### PROFESSIONAL EXPERIENCE

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#### Software Developer Intern | Jairosoft Inc., Davao City June 2024 – August 2024

- Contributed to modern web application development using Angular, TypeScript, and JavaScript.
- Collaborated in a Scrum/Agile environment, utilizing Git for version control and team-based software launches.
- Optimized code performance by identifying bottlenecks and refactoring for improved efficiency.
- Performed quality checks and actively participated in bug fixing to ensure production-ready code.

#### Assessment Clerk | LGU – Maragusan, Davao De Oro September 2025 – Current

- Developed proficiency in specialized software programs to increase department productivity.
- Utilized GIS software and spatial analysis techniques to enhance mapping accuracy for taxation purposes.
- Implemented quality control measures to ensure the highest level of accuracy in technical materials.

### EDUCATION

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Bachelor of Science: Computer Engineering | Graduated June 2025 Caraga State University-Cabadbaran, Philippines