

Javier Aguilar Castano

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Profile

Computer Engineer skilled in software development, system design, and intelligent automation. Proficient in C++, Python, and JavaScript, with a focus on AI, embedded systems, and innovative problem-solving.

Experience

Projects Experience

1. **Personal Finance Tracker Web App** | Python, Flask, SQLite, Chart.js | Built a full-stack expense tracker with user authentication, data storage, and interactive spending charts.
2. **Smart Energy Dashboard** | JavaScript, Node.js, IoT, MySQL | Developed a web dashboard with Node.js and MySQL to visualize IoT energy data in real time, simulating smart home energy tracking.
3. **Sign Language Detection Glove** |C++, Arduino, Flex Sensors, Embedded Systems | Built an Arduino-based glove using C++ and flex sensors to translate ASL gestures into real-time speech and text, enhancing accessibility through embedded software and signal processing.
4. **AI Study Helper (Prototype)** | Python, OpenAI API, Flask | Developed an AI tutoring assistant using NLP to provide step-by-step help for math and coding problems.
5. **Dimensional Physics Theory (Research Project)** | Python, Matplotlib | Developed Python simulations and visualizations exploring curvature relationships between mass, energy, and space for multi-dimensional models.

Work Experience

1. **Software Development Intern** | TechCamp (Remote) — 2019 & 2022 | Built EcoPlanet, a cross-platform Flutter app promoting climate awareness with interactive, data-driven content and strong UI/UX design.
2. **University STEM Tutor** | Prairie View A&M University — 2022-2023 | Tutored peers in Math, Physics, and Programming (C++, Python, MATLAB), simplifying complex concepts and guiding hands-on problem solving to strengthen understanding and technical confidence.
3. **Intern PV-STEM** | Prairie View A&M University — 2023 & 2024 | Managed experimental data and developed full-stack web tools to streamline lab workflows. Supported safety compliance and strengthened skills in software, data management, and problem-solving.

4. **Assistant Worker** | Prairie View A & M University — 2023-2025 | Developed and maintained full-stack web applications with WordPress and JavaScript, managing data and streamlining lab workflows while enhancing web development and problem-solving skills.

Education

Bachelor of Science in Computer Engineering

Prairie View A&M University — Graduation: August 2025

Relevant Coursework: Software Engineering, Embedded Systems, Operating Systems, Data Structures, Computer Architecture, Thermodynamics, Digital Logic Design

Skills & Abilities

- **Programming Languages:** C/C++, Python, Dart, JavaScript, HTML, CSS, MATLAB
- **Software Development:** Flask, Node.js, Flutter, SQLite, MySQL, APIs
- **Embedded Systems:** Arduino, Raspberry Pi, Sensors, IoT Integration
- **Tools & Platforms:** Linux, Git, VS Code, Figma, Docker, AWS
- **Specialties:** Software Engineering, IoT Systems, Automation, Quantum Algorithms (basics), UI/UX Design
- **Languages:** English, Spanish, French and Portuguese.
- **Art & Sport:** Music and Literature, Marathon and Soccer.