Jesus Soto Gonzalez

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Scan to view my web portfolio!

Education

Iowa State University | Ames, IA
Bachelor of Science in Software Engineering   GPA: 3.61
Minor in Artificial Intelligence   Expected Graduation: December 2025
Relevant Coursework: Data Structures and Algorithms, Embedded Systems, Operating Systems, Web Development,
Database Management Systems, Principles of Artificial Intelligence, Machine Learning, Natural Language Processing.

Des Moines Area Community College | Ankeny, IA
Associate of Applied Science in Diesel Technology   GPA: 3.77 | Graduated: May 2021

Technical Skills

Programming Languages: C, C++, Python, JavaScript, TypeScript, Java, SQL
Frameworks/Tools: React, Node.js, Git, Linux, MySQL, REST
Platforms: ROS2, Unity, Android SDK

Projects

Agropecuaria RG – Web App | Full-Stack Family Business Platform
Tech: Next.js, TypeScript, Tailwind CSS, shadcn/ui, Supabase, Framer Motion, Zod
- Built a bilingual full-stack platform combining a modern marketing site with a secure private admin dashboard.
- Implemented invite-only authentication, land rental management, employee payroll tracking, and secure password reset flow with localization.
- Architected scalable backend using Supabase (Auth, Database, Storage) and validated forms with Zod + React Hook Form.

GridAI – Smart Grid Management Platform | Senior Design Project
Tech: *React, TypeScript, Kafka, Firebase, WebSockets*
- Built a customizable widget system for live electric grid telemetry with real-time JSX editing.
- Integrated Kafka and WebSockets for streaming grid data into dynamic, user-defined dashboards.
- Developed secure RESTful APIs for widget management with Firebase auth and Firestore persistence.

Probabilistic Escape-Pursuit Planning | Principles of Artificial Intelligence Final Project
Tech: *Python, NumPy*
- Developed a top-ranked AI agent for a probabilistic multi-agent grid simulation with uncertain movement.
- Combined A* pathfinding with a rotation-aware strategy using EMAs and a sliding window estimator.
- Achieved 1st place by dynamically switching between pursuit, evasion, and neutral modes based on real conditions.

Fully Autonomous System Development | CprE 288 Embedded Systems Final Project
Tech: *C, iRobot, Sensors*
- Programmed autonomous navigation using SONAR and IR sensors with real-time obstacle avoidance.

Work Experience

Brown NationaLease | Iowa Falls, IA
Certified Diesel Technician | May 2021 – May 2022
- Diagnosed and repaired complex mechanical systems, applying analytical problem-solving skills.

Iowa Select Farms | Jewell, IA
Maintenance Technician | August 2017 – May 2021
- Developed troubleshooting procedures for equipment failures, enhancing critical thinking and reliability.

Leadership / Activities

Cardinal Space Mining Club | Safety Officer
- Oversaw safety protocols and contributed to controls system development and prototype testing.

Software Engineering and Computer Science Club | Member
- Contributed to collaborative coding sessions and tech talks focused on modern software practices.

SHPE | Member
- Collaborated with peers in workshops and events focused on Latino excellence in STEM.