**A qr code with a black and white background

AI-generated content may be incorrect.Jesus Soto Gonzalez**

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**Education**

Scan to view my web portfolio!

**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 & Software:** C, C++, Python, Java, JavaScript, TypeScript, SQL, React, Next.js, Node.js

**Embedded & Controls:** Motor control, ROS2, CAN bus communication, sensor integration

**Platforms & Deployment:** Linux, Unity, Android SDK, Firebase, Supabase, MongoDB, Vercel, Docker

**Vehicle Systems & Diagnostics:** Powertrain/hydraulics, pneumatics, HVAC/refrigeration, electrical, and fuel systems

**Professional Experience**

**Agropecuaria RG** | Remote

*Full-Stack Web Developer | July 2025* – *Present*

* Developed a full-stack platform with a public marketing site and a secure admin dashboard for business operations.
* Built features for land rental management, renter registry with contracts, and employee payroll tracking.
* Implemented invite-only authentication, route protection, and secure password reset flows with Supabase.
* Deployed on Vercel using Next.js, TypeScript, Tailwind CSS, shadcn/ui, and Supabase for scalable backend services.

**Brown NationaLease** | Iowa Falls, IA

*Certified Diesel Technician* | May 2021 – May 2022

* Diagnosed and repaired electrical, fuel, hydraulic, HVAC, and mechanical systems using schematics and diagnostic tools.
* Performed hands-on maintenance on diesel engines, transmissions, and electronic control systems.
* Interpreted wiring diagrams, hydraulic schematics, and fuel system blueprints to troubleshoot complex faults.
* Performed preventive maintenance and DOT inspections to ensure safety, reliability, and regulatory compliance.

**Iowa Select Farms** | Jewell, IA

*Maintenance Technician* | August 2017 – May 2021

* Performed preventive maintenance and safety inspections on facility systems to reduce downtime and ensure compliance.
* Collaborated with operators to diagnose reported issues, communicate repair plans, and document completed work.

**Projects**

**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.

**Leadership / Activities**

**Cardinal Space Mining Club |** Safety Officer & Controls Team Member

* Created safety protocols, trained members, and enforced PPE/EHS standards; led safety for the CoSMiC competition.
* Designed and debugged motor controls for Lunabotics prototypes, supporting smooth teleop-to-autonomy transitions.
* Implemented ROS2 nodes with CAN bus messaging to integrate onboard computing and motor actuation in real time.

**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.