Jose David Aguilar Avalos

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Professional Summary

Software Engineering student at the University of Colima specializing in Full-Stack and Mobile development. Proficient in building cross-platform applications with React Native, while managing robust back-end systems using Node.js, and SQL databases. Scrum Foundation certified (SFPCM) professional dedicated to continuous learning and delivering efficient, scalable software solutions through agile methodologies

Education

BS	**University of Colima**, Software Engineering	Colima, Mexico
	• Thesis: Digital Twin: Real-Time Building Energy Monitoring & Prediction	Expected June 2026
	• Relevant Coursework: Machine Learning, Distributed Systems, Systems Programming, Data Structures and Algorithms	
Bac-calau-reate	**University of Colima (Baccalaureate No. 8)**, Technical Degree in Software Development	Colima, Mexico 2019 – 2022

Projects

EnergyFlow: Digital Twin Real-Time Energy Monitoring & Forecasting | React Native, Next.js, PostgreSQL, Prisma — Apr 2025 – present

Engineered a Digital Twin mobile and web platform to monitor electrical consumption across faculty buildings in real-time.
- Developed a robust backend API using Next.js and Prisma ORM, integrating a PostgreSQL database via Supabase for scalable data persistence.
- Implemented predictive algorithms to forecast energy demand and generated multi-platform automated reports to optimize resource allocation.

Spike: Veterinary Services & Pet Care Manager | React Native, Node.js, Express, PostgreSQL — Sept 2024 – Nov 2024

Developed a comprehensive mobile management system for veterinary clinics, facilitating appointment scheduling and medical history tracking
- Implemented a granular Role-Based Access Control (RBAC) system for administrators, veterinarians, staff, and clients
- Designed an automated report generation module to track service utilization, pet health trends, and internal staff management

JEMAS: Jewelry Management System | PHP, JavaScript, MariaDB, Bootstrap — Mar 2024 – June 2024

Designed and deployed a web-based inventory and employee management system tailored for the jewelry industry.
- Developed CRUD functionalities for inventory tracking and staff performance monitoring using PHP and MariaDB.
- Built a responsive and user-friendly interface using Bootstrap, ensuring efficient system navigation for non-technical staff.

Share-Sphere: Virtual Community Forum | PHP, MySQL, JavaScript, HTML/CSS   Sept 2023 – Nov 2023

Created a web-based discussion forum focused on fostering information exchange and perspective sharing within virtual communities

- Architected a relational database in MySQL to handle user authentication, post categorization, and real-time thread interactions.
- Optimized frontend performance using vanilla JavaScript, reducing page load times for improved user engagement.

Pick-em-Everything: 2D Arcade Game | Python, Pygame   Aug 2022 – Nov 2022

Developed a multi-level 2D game using the Pygame library, implementing collision detection and object collection mechanics.

- Designed a complete game state management system including main menus, configuration settings, and dynamic difficulty scaling.

Skills

Languages: Python, JavaScript, TypeScript, PHP, Java, Kotlin, C, C++, HTML5/CSS3

Frameworks & Libraries: React Native, Node.js, Express, Next.js, Prisma ORM, Bootstrap, Tailwind CSS

Certifications: Scrum Foundation Professional Certificate (SFPC) - CertiProf