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JUAN DANIEL RODRÍGUEZ MONTERO
COMPUTER ENGINEER | IT CONSULTANT

Final-year Computer Engineering student (2020–2026) with experience in multiple software, hardware, and embedded systems development projects. Since 2024, I have provided IT support and infrastructure management for a local company, strengthening my skills in troubleshooting, networking, and technical operations.

Proactive, self-taught, and solution-oriented, with the ability to learn quickly and contribute practical and innovative ideas within collaborative teams.

MOST RECENT EXPERIENCE

Computer Engineering Student at Instituto Tecnológico de Costa Rica

Jan, 2020 – Present

KEY RESPONSABILITIES

1. **Developed software solutions** including backend (.NET, Node), frontend (Angular, React), desktop applications, and database-driven systems for academic and applied projects.
2. **Designed and implemented embedded systems** using FPGA (DE1-SoC), Raspberry Pi, Arduino, and other microcontroller-based platforms.
3. **Built custom embedded Linux environments** using Yocto, optimizing system performance and integrating with hardware platforms like FPGA and microcontrollers.
4. **Built and tested low-level hardware circuits**, including analog systems, integrated circuits, operational amplifiers, transistors, and other electronic components.
5. **Applied software engineering principles**, including requirements analysis, software architecture, modular design, SOLID principles, and design patterns in project development.
6. **Implemented agile project management practices**, including client requirement extraction, project planning, collaboration in multidisciplinary teams, and continuous integration and delivery (CI/CD).
7. **Applied artificial intelligence and pattern recognition techniques**, implementing machine learning models and algorithms in software development projects.
8. **Ensured quality, usability, and performance** of applications and hardware systems through testing, monitoring, code review, and adherence to industry standards.

ACCOMPLISHMENTS

1. **Implemented custom embedded Linux environments using Yocto,** optimizing system performance and successfully integrating with FPGA and microcontroller hardware for complex academic projects.
2. **Designed and deployed multi-layered embedded systems** combining hardware circuits (analog, op-amps, transistors) and software logic, solving real-time operational challenges.
3. **Developed AI and pattern recognition models** from scratch, including dataset preparation, algorithm selection, and optimization, achieving high accuracy in computational simulations.

4. **Built full-stack applications with .NET and Angular** that simulated real-world user requirements, integrating database management, RESTful APIs, and modular architectures.
5. **Architected microservices and service-oriented software solutions** implementing SOLID principles, CI/CD pipelines, and automated testing to ensure scalability and maintainability.
6. **Led interdisciplinary project teams** to solve complex engineering problems, coordinating software, hardware, and system integration, while applying Agile methodologies and project management skills.
7. **Solved critical hardware-software integration challenges,** including timing synchronization, signal amplification, and interfacing low-level hardware with high-level applications, developing solutions only possible through iterative experimentation and troubleshooting.

IT Consultant (Professional Services) at SyG Cubiertas y Cerramientos

Mar, 2024 – Present

KEY RESPONSABILITIES

1. **Implemented a private file centralization system using Nextcloud,** deploying a local server with secure remote access through a Cloudflare Tunnel, user management, permissions configuration, and automated data backups.
2. **Deployed business management applications for RRHH using Odoo** on cloud infrastructure (Digital Ocean), including configuration, testing, and user onboarding.
3. **Managed email servers and IT infrastructure,** ensuring continuous availability and resolving technical issues for employees both on-site and remotely.
4. **Provided day-to-day IT support,** troubleshooting hardware and software problems, installing and configuring workstations, and maintaining network connectivity.
5. **Integrated content delivery solutions (CDN)** to allow remote employees secure and fast access to company resources.
6. **Monitored and maintained system security and performance,** applying best practices in backups, updates, and preventive maintenance.
7. **Collaborated with company staff** to identify technical needs, provide training, and implement solutions that improve operational efficiency.

ACCOMPLISHMENTS

1. **Analyzed and solved complex IT challenges for company management,** providing multiple solution options and guiding decision-making to improve workflows and infrastructure efficiency.
2. **Led the implementation of a secure Nextcloud file centralization system,** coordinating directly with staff to ensure seamless integration and user adoption.
3. **Designed and deployed customized Odoo applications** for HR and resource management, translating user needs into practical, scalable technical solutions.

SKILLS

- Embedded Systems
- Yocto / Linux
- Backend (.NET, C#)
- Frontend (Angular, React)
- Desktop Apps

- Databases (SQL Server, MongoDB)
- Microcontroller Programming
- Agile / PM
- Software Architecture
- AI / Machine Learning

- Hardware Design
- CI/CD
- IT Infrastructure
- Real-Time Systems
- Circuit Design & Testing

EDUCATION

Computer Engineering Student at Instituto Tecnológico de Costa Rica

Jan 2020 - Present [Cartago, Costa Rica]

Middle Technician in Technical Support at C.T.P Fernando Volio J.

Feb 2015 - Dec 2018 [Cartago, Costa Rica]

EDUCATION

- Spanish (native)
- English (Intermediate B2)