EINAR JHORDANY SERNA VALDIVIA

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Full-Stack Developer

PERFIL

Full-Stack Developer with over 7 years of experience building diverse software solutions, including desktop applications, scripts, and scalable web platforms. Proficient in **.NET**, **FastAPI**, **React**, and **Next.js**, with extensive experience connecting to databases like **PostgreSQL**, **MySQL**, **MSSQL**, **MongoDB**, and **Firebase**. Skilled in deploying applications using **Docker**, **AWS**, and local servers, and implementing CI/CD pipelines with **GitHub Actions** and **Jenkins**. Adept at leading full-cycle development, optimizing backend databases, and improving user engagement by 30%. Expert in containerized deployment and **cybersecurity**.

PROFESSIONAL EXPERIENCE

GOVERNMENT OF GUANAJUATO
Geographic Database Specialist

Guanajuato, Gto
JAN 2022 - Present

- Developed responsive and scalable web applications using **React**, **Python**, **Docker**, and **PostgreSQL**, ensuring cross-platform compatibility and scalability.
- Collaborated with design and product teams to implement user-friendly interfaces, improving usability and overall user experience.
- Containerized applications with **Docker**, enabling consistent and efficient deployment across multiple environments.
- Built and optimized backend APIs using **FastAPI** and **GEOAlchemy** for fast and secure data storage and retrieval.
- Conducted comprehensive unit testing and participated in code reviews, maintaining high standards of code quality and reducing post-production bugs by 25%.
- Troubleshot and resolved user-reported bugs quickly, improving system stability and reducing downtime.
- Replaced manual processes involving **XLSX** files with automated, web-based solutions, reducing process time by 40% and increasing team productivity.
- Improved backend database query performance, reducing response times by 50%.
- Collaborated cross-functionally to launch new features, boosting user engagement by 30% and enhancing overall system security.

LEON TECNM
Full Stack Developer

Leon, Gto
FEB 2021 - Dec 2021

- Collaborated with a wide range of technologies, including **React**, **Python**, **MySQL**, **Docker**, **MongoDB**, **NodeJS**, **AWS Lambda**, **EC2**, **DynamoDB**, **Sendgrid**, and **Twilio**, to develop scalable and feature-rich web applications.
- Connected databases through stored procedures to facilitate data interpretation and support data-driven decision-making.
- Designed user-friendly interfaces using **React** and **Next.js**, enhancing user experience and interface performance.
- Developed backend APIs with **FastAPI** and **Flask** for efficient data storage and retrieval, improving system reliability and speed.
- Leveraged **Pandas** for data analysis and utilized **BitBucket** for version control and project management, ensuring smooth project delivery.
- Maintained **AWS Lambda** functions and optimized data processing with **JavaScript** and **DynamoDB**, significantly improving data flow efficiency.
- Integrated front-end technologies like **Redux**, **GraphQL**, **MaterialUI**, **Next.js**, and **Storybook**, creating interactive and visually appealing user interfaces that boosted user engagement.
- Implemented **CI/CD pipelines** for seamless project deployment to **AWS EC2** using **Jenkins** and **GitHub Actions**, streamlining the development lifecycle and reducing deployment time by 20%.
- Achieved successful database integration using **Python**, **SQLAlchemy**, and **Pymongo/MongoEngine** to connect **MongoDB** and **MySQL**, enhancing data interpretation and analysis for business processes.

MCPV
Data Analyst Assistant

Silao, Gto
SEP 2019 - Nov 2020

- Collaborated extensively with **C#**, the **.NET Framework**, and **.NET Core** to build solutions that enabled efficient data interpretation and analysis for decision-making processes.
- Created and provided support for **.NET Core** applications, ensuring scalability and efficient performance across different environments.
- Connected **SQL Server** databases through stored procedures, optimizing data retrieval and streamlining complex data queries for faster reporting.
- Enhanced data interpretation capabilities by implementing robust database interaction mechanisms using **C#**, **.NET**, and **.NET Core**, improving the overall accuracy and efficiency of data-driven decisions.
- Developed and optimized SQL queries, leading to a 30% improvement in data processing times for reporting and analysis tasks.

GUANAJUATO UNIVERSITY
Computer Network Specialist

Guanajuato, Gto
JAN 2019 - Jun 2019

- Conducted comprehensive assessments of network architecture and hardware components across multiple sites and data centers within a research network.
- Analyzed and identified areas for improvement in network design, proposing optimized solutions to enhance **scalability**, **security**, and **performance**.
- Developed a new network model aligned with research goals, implementing robust connectivity solutions to ensure seamless communication and data exchange between research sites and data centers.
- Led the implementation of **optimized network designs** using appropriate equipment, protocols, and technologies, significantly improving network efficiency and reliability.
- Performed extensive performance testing and fine-tuning, resulting in a 25% increase in network throughput and a reduction in latency.
- Documented the entire network infrastructure, creating detailed **infrastructure diagrams**, configurations, and documentation to ensure smooth future maintenance and scalability.

GOVERNMENT OF GUANAJUATO
Security Specialist

Guanajuato, Gto
SEP 2018 - Nov 2018

- Conducted comprehensive **vulnerability assessments** and **penetration testing** on a payment portal, identifying critical vulnerabilities that posed a risk to sensitive customer data.
- Collaborated with the development team to promptly address the vulnerabilities and implement robust security measures, ensuring the **confidentiality**, **integrity**, and **availability** of the payment system.
- Successfully detected and mitigated a critical security flaw, preventing potential data breaches and unauthorized access to sensitive information.
- Strengthened the overall security posture of the payment portal by implementing additional security measures, including **input validation** and **access controls**.
- Conducted thorough testing and validation of security patches, ensuring the effectiveness of the solutions and providing a secure and reliable payment platform for users.

ACADEMIC PROJECTS

INTERNATIONAL CONGRESS OF SOFTWARE IMPROVEMENT
Web Developer

Zacatecas, Zac
OCT 2019 - Nov 2021

- **Developed Engaging Platforms:** Utilized React and React Native frameworks to create web and mobile applications, enhancing user experiences and increasing user engagement by 15%.
- **Built Scalable Applications:** Leveraged Node.js to develop scalable and high-performance server-side applications, improving processing efficiency and reducing server response times by 5%.

- **Real-Time Data Integration:** Integrated NoSQL Firebase for real-time polling applications, enabling real-time elections and student population consensus with 8% improvement in response time and accuracy.
- **Application Support and Maintenance:** Provided ongoing support and maintenance for applications developed with .NET framework, C#, and SQL Server, ensuring stability and reducing downtime by 12%.
- **Front-End Development:** Maintained and updated HTML, CSS, and VanillaJS codebases, contributing to high-quality user interfaces and enhancing user satisfaction by 30%.

GUANAJUATO TECNM   **Guanajuato, Gto**
Full Stack Developer   **Aug 2015 - Dec 2019**
- **Web and Mobile Development:** Utilized React and React Native to create engaging web and mobile platforms, resulting in exceptional user experiences and a 30% increase in user satisfaction.
- **Server-Side Processing:** Leveraged Node.js to build scalable, high-performance applications, optimizing server-side processing and reducing response times by 3%.
- **Real-Time Data Integration:** Integrated NoSQL Firebase for real-time polling applications, facilitating efficient elections and student population consensus with 7% improvement in data accuracy and response time.
- **Application Support:** Provided support and maintenance for existing applications developed with .NET, C#, and SQL Server, ensuring smooth operation and reducing downtime by 11%.
- **Front-End Maintenance:** Ensured the HTML, CSS, and VanillaJS codebase was up-to-date and well-maintained, enhancing user interfaces and contributing to an 10% improvement in user engagement.

PORRAS & PORRAS PROFESSIONAL SERVICES   **Queretaro, Qro**
Full Stack Developer   **Nov 2013 - Jun 2018**
- **Web-Based Quotation and Invoicing System:** Designed and developed a comprehensive system using HTML, CSS, JavaScript, and Flask (Python). Implemented user authentication and authorization features to ensure secure access and role management for quotation and invoicing functionalities.
- **NFC Integration:** Innovatively integrated NFC technology with a Raspberry Pi to enable secure gate access for authorized personnel, enhancing security and control over restricted areas.
- **Computer Vision for Safety:** Employed computer vision techniques using OpenCV on the Raspberry Pi to detect welding activities and automatically trigger ventilation systems, improving safety measures.
- **Automation Scripts:** Developed automation scripts in Python and JavaScript to streamline repetitive tasks such as quotation generation and invoice creation, increasing efficiency and reducing manual effort.
- **Database Integration:** Utilized MySQL and PostgreSQL for efficient data storage and retrieval, ensuring robust and reliable backend operations.
- **Responsive Web Design:** Ensured the web application was fully responsive and compatible with various devices and screen sizes, delivering a seamless user experience across platforms.
- My achievements include successfully delivering a robust web-based quotation and invoicing system with user authentication, NFC gate opening, computer vision-based safety features, and automation scripts for increased efficiency. The system's design and development encompass a wide range of functionalities and innovations to fulfill its purpose effectively.

KEY ACHIEVEMENTS

- **Developed a Robust System:** Delivered a comprehensive web-based quotation and invoicing system incorporating secure user authentication, NFC gate access, and computer vision-based safety features.
- **Enhanced Security:** Integrated NFC technology with Raspberry Pi for secure gate access, significantly improving control over restricted areas.
- **Improved Safety:** Utilized computer vision (OpenCV) to monitor welding activities and trigger safety systems, enhancing workplace safety.
- **Increased Efficiency:** Created automation scripts in Python and JavaScript, streamlining repetitive tasks like quotation and invoice generation, resulting in a notable increase in operational efficiency.

SKILLS

- **Languages:** Native in Spanish; Conversational Proficiency in English.
- **Programming Languages**: Python; Javascript; C#; VBA; C++; PHP; Java.
- **Cloud**: AWS; Github; GitLab; Heroku, Vercel.
- **Databases**: MariaDB; MySQL; PostgreSQL; SQL Server; MongoDB; Firabase.

CERTIFICATIONS

- Programming Contest: ACM/ICPC; Central America ACM/ICPC; Caribbean Coding Cup.
- Security Certifications: Introduction to IoT Cyber Security; Secure Dev & Ethical Hacking; Information Security; Colloquium on Crypto.
- Management Certifications: Kanban Systems Design (KMP 1); ISO/IEC 45001; ISO/IEC 9001:2015.
- Development Certifications: CIMPS; Google Active Web I and II; Python; OOP with C#.

EDUCATION

CENTER FOR RESEARCH IN MATHEMATICS A.C. (CIMAT)   **Zacatecas, Zac**
Masters in software engineering (Pending)   **2019-2021**

TECNM GUANAJUATO   **Guanajuato, Gto**
Computer Systems Engineer   **2015-2019**

CBTIS 173   **Guanajuato, Gto**
Programming Technician   **2012-2015**