Dorothy Charpentier

305.965.7074 - dcharpes@gmail.com

Summary

Innovative Software Engineer and Project Manager with 7+ years of experience building scalable RFID, vision, and AI-driven inspection systems. Proven ability to lead cross-functional teams and deliver robust industrial automation solutions under tight deadlines.

Experience

EZ Automation Systems LLC   09/19 – Present
Software Engineer II   Jacksonville, FL

- Architect, develop, and support high-quality, secure, and scalable RFID & vision inspection systems.
- Troubleshoot and resolve complex technical issues including bug fixes, hardware integration, and server connectivity. Optimize system performance resulting in enhanced reliability and customer satisfaction.
- Maintain technical documentation, contributing to internal knowledge bases and best practices.
- Develop, maintain and upgrade manual or automated test scripts, simulators, data sets and other programmatic test tools to ensure systems quality performance prior to releases.
- Designed and implemented an automated support ticketing system using PowerApps, reducing manual workload and improving response times.
- Reduced application database lookup time from 3 minutes to under 1 minute by converting Entity Framework queries to optimized raw SQL.
- Apply OOP principles when creating applications to enable modular coding and reusability, leveraging design patterns and data structure knowledge.
- Mentor new engineers to write modular, reusable code and conduct code reviews to ensure adherence to best practices.
- Developed a React-based dashboard integrating Chart.js visualizations to transform raw operational data into interactive insights, enabling productivity analysis and real-time inventory tracking.
- Deployed and maintained AI-powered chatbot services leveraging AWS (Lambda, S3, API Gateway), ensuring scalable, cloud-native performance and seamless integration with existing applications.
- Designed and enhanced web-based tracking system supporting global ASPAC/EMEA teams, implementing SPA-style dashboards with React/TypeScript and SQL back-end queries for efficient data visualization, workflow automation, and BOM variant handling.

Technical Lead

- Collaborated with vision, electrical, mechatronics, and mechanical engineers to design, develop, and test inspection systems.
- Designed and developed a part inspecting software that communicates with a PLC, motors, cameras, lights (DSC-100), Halcon to create 3D models, converting models into CAD files, identifying surfaces, and extracting key measurements to begin inspection.
- Designed an AI-powered visual sorting system that guided technicians through quality checks—reducing human error by 99%.
- Assess risks and apply strategies to mitigate issues to keep in alignment with the deliverables

Project Manager

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- Successfully managed 8+ end-to-end projects, leading cross-functional teams of up to 17 members through the full product development lifecycle.
- Delivered 79% of projects on time and within budget, consistently meeting stakeholder expectations and business goals.
- Maintained continuous liaison with stakeholders and engineering teams to assess performance, troubleshoot issues, and resolve technical roadblocks impacting production timelines.
- Took full ownership of project documentation, providing weekly status reports to stakeholders and executives.
- Demonstrated strong interpersonal and written communication skills, effectively managing multiple concurrent initiatives and making timely, data-driven decisions.
- Developed and delivered the annual SLA to ensure service expectations were clearly defined and met.

Alstom Railroad   11/17 – 08/19
Signaling Technologist   Jacksonville, FL

- Developed web application that retrieved, and stored files that we filed in cabinets using NodeJS, Express, EJS, NeDB, HTML, CSS, JavaScript, JQuery, React, API's, Socket I/O which increase efficiency by 40%
- Designed the client side of the web application to perform cross-browser and reload partial sections on the application, and making it interactive using JavaScript and JQuery
- Utilized Flash Properties Tool in Flash using ActionScript
- Developed/implemented AR application using Vuforia and Unity3D for new employee training
- Work with teams of senior level managers, supervisors, business line staff, technical staff, contractors, and groups of experts (IT, data analysts, and training) to implement business system initiatives.

Education

B.S., Computing & Information Sciences: Information Science – 2018, University of North Florida, Jacksonville, FL

B.A., Psychology – 2013, Florida Gulf Coast University, Fort Myers, FL

Technical Skills

- **Programming**: C#, Python, JavaScript, Swift
- **Web & UI/UX**: React, Node.js, HTML/CSS, Wireframing, Prototyping
- **Tools**: Git, Docker, AWS, SQL/NoSQL
- **Methodologies**: Agile, Scrum, Cross-functional Team Leadership, Test-Driven Development (TDD), Object-Oriented Programming (OOP) & Design Patterns