

# Cynthia Spence

SOFTWARE ENGINEER | TECHNICAL CONSULTANT | PRODUCT OWNER

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<https://github.com/spenceware-engineer>

## Professional Summary

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Experienced and passionate Software Engineer, Product Owner, and aspiring Data Engineer with over 4 years of experience in full-stack development. Deeply interested in the entire data lifecycle and committed to supporting dynamic teams and driving success. Actively pursuing growth and development in Software and Data Engineering. Eager to contribute and make an impact, whether as a Software Engineer, Data Engineer, or Product Owner.

## Experience

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### Bet Max Action | Software Engineer

MAR 2025 – PRESENT

- Collaborating with stakeholders to define project scope, gather requirements, and establish technical roadmaps.
- Contributing to discussions on system architecture, technology stack selection, and development best practices.
- Setting up development workflows, defining sprint objectives, and preparing for Agile collaboration.
- Documenting initial system requirements, architecture decisions, and development processes for future implementation.
- Engaging with team members to align on goals, establish coding standards, and prepare for project execution.

### World 50 | Software Engineer

NOV 2022 – FEB 2024

- Investigated and resolved UI, UX, and backend issues, enhancing application stability and performance.
- Updated and maintained dependencies such as Firebase, Firebase Admin, Flipper, and Sentry to improve system reliability and security.
- Developed an Express endpoint as an access point to a data pipeline that aggregated, cleaned, compared, and updated user data across PostgreSQL, Redis, Snowflake, and Salesforce, enabling large-scale data updates across the system.
- Designed and implemented scheduled automated emails for over 400,000 users, customizing content dynamically based on recipient-specific data from multiple sources.
- Redesigned the pub-sub failure message storage, including database schema updates for better tracking and troubleshooting.
- Developed and optimized UI components, added new UX features, and ensured seamless user experiences while adhering to design specifications.
- Participated in Scrum ceremonies (standups, sprint planning, and sprint reviews), pair-programmed to resolve blockers, and conducted code reviews.

- Followed best practices for branching, merging, and conflict resolution; created merge requests and conducted sprint reviews based on team-defined workflows and guidelines.
- Created and maintained documentation on Notion, used best practices for code comments, and updated Insomnia and Postman collections to reflect API changes.
- Assisted new hires with environment setup and troubleshooting, located and provided key resources, and facilitated connections to the right contacts for further support.

#### **Olive AI | Software Engineer**

**AUG 2021 – SEP 2022**

- Developed and optimized automation scripts to track medical claims through their lifecycle—from submission at healthcare facilities to processing by insurance companies—using JavaScript, Node.js, OliveScript, Puppeteer, and Selenium WebDriver.
- Resolved critical bugs and optimized claim-processing workflows for scripts running across hundreds of insurance agencies and medical facilities.
- Increased processing efficiency by 75% through batching, parallelization, and performance optimizations, ensuring claim workflows completed on schedule.
- Designed and implemented a persistent data system that allowed failed or incomplete claims to be automatically retried in subsequent runs, ensuring data integrity, eliminating duplicate processing, and enforcing time-based escalation rules.
- Engineered a Selenium and Puppeteer-based bot that automated authentication—including multi-factor authentication via Mailparser and Twilio—to securely access insurance portals, navigate claims pages, execute searches, and extract critical claim details using XPath and CSS selectors.
- Developed logic to parse, extract, and structure claim-related data from large multi-page PDFs and various document formats, filtering key details relevant to healthcare providers and insurers.
- Structured extracted data into JSON, XML, CSV, and other formats for seamless consumption by data scientists, insurance adjusters, and other stakeholders.
- Engaged in daily standups, sprint planning, backlog refinement, sprint retrospectives, and code reviews, contributing to a fast-paced and iterative development environment.

#### **Realware | Contract Software Engineer**

**MAR 2021 – JUL 2021**

- Led the planning, architecture, and development of one microservice while assisting in the development of a second, collaborating closely with another engineer and an API developer.
- Conducted in-depth requirement gathering sessions to ensure a clear understanding of expectations while allowing flexibility for evolving priorities.
- Conducted extensive research to evaluate and select TypeScript, React, Apollo-GraphQL, React Navigation, React Flow, Apollo Server, and Node.js, with my recommendations being approved in 90% of technology decisions.
- Designed UML-based database models using dbdiagram.io, defining efficient data structures to support business logic and user interactions, which were adopted with minor refinements by the team.
- Defined and implemented GraphQL queries and mutations tailored to user needs, ensuring seamless data retrieval and manipulation within the application.
- Designed and developed React-based front-end components, wireframed layouts, and implemented interactive, user-friendly interfaces.
- Identified and replaced an underperforming third-party visualization library, reducing costs and improving application maintainability by selecting a more flexible and well-supported alternative.
- Engaged in daily standups, sprint planning, backlog refinement, retrospectives, and sprint reviews, practicing pair programming and iterative development.
- Contributed to the entire SDLC, from architecture and design to delivery and iteration, ensuring high-quality software development.

#### **AAK Tele-Science | Contract Lead Software Engineer**

**DEC 2020 – MAY 2021**

- Led a globally distributed team of five engineers across Tunisia, Spain, Vietnam, and China, managing development tasks, coordinating schedules, and ensuring smooth collaboration across time zones.

- Independently developed a pixel-perfect UI from Figma designs using React, React Router, Redux, and Material UI, ensuring adherence to design specifications with precise visual effects and navigation.
- Designed and built a custom admin portal, enabling non-technical users to update site content and workflows. Led the team in gathering and defining requirements to drive development.
- Architected and implemented the PostgreSQL database schema, later leading a migration to MySQL while ensuring minimal disruption to application functionality.
- Researched, evaluated, and collaborated with the team and CTO to select appropriate technologies, ensuring the stack aligned with business goals and scalability.
- Gathered requirements from stakeholders and translated them into structured milestones, breaking them down into actionable development tasks, creating user stories, and defining acceptance criteria to keep the team aligned and productive.
- Effectively communicated across all levels, including team members, executives, and stakeholders, documenting expectations, acceptance criteria, and technical implementations.
- Adapted to the fast-paced startup environment, working flexible and extended hours to support the team and address urgent technical issues on an on-call basis.

### Freelance Technical Specialist

OCT 2018 – JUL 2021

- Navigated a wide range of tech stacks and development environments, quickly integrating into new teams, contributing value, and driving progress across projects of varying scale and complexity.
- Delivered full-stack web applications using React, Node.js, and Express, deploying scalable solutions on platforms including AWS Amplify, Heroku, and Vercel.
- Refactored legacy frontends into modern React/Redux architectures, improving UI responsiveness and maintainability based on evolving design specs.
- Developed and deployed RESTful and SOAP APIs, leveraging AWS API Gateway to support secure, scalable communication and streamline integrations across microservices and external systems.
- Developed a multi-resume ingestion pipeline for a hiring platform, enabling bulk PDF uploads, automated data scraping, transformation, and storage in both a candidate database and file system.
- Built a LinkedIn resume automation feature that navigated to profile URLs, downloaded resumes as PDFs, and routed them through the existing processing pipeline for extraction and storage.
- Served as Product Owner for a small engineering team, translating non-technical business requirements into actionable tasks with clear acceptance criteria and prioritization.
- Acted as Developer Advocate, facilitating communication between developers and a non-technical CEO, resolving misunderstandings, advocating for fair treatment, and ensuring team alignment.
- Developed a Java-based Android application that monitored incoming SMS messages for emergency keywords and triggered a loud alarm to wake heavy sleepers during critical situations.
- Independently developed a desktop game in C++ using SDL, collaborating with a client to bring a childhood concept to life and upgrading to SDL2 mid-project to modernize the codebase and support new features.
- Implemented frontend features in JavaScript and React for an educational platform serving law students, collaborating closely with API and database teams to ensure data integrity and seamless UI integration.
- Resolved critical bugs across short-term freelance contracts, acting as a second set of eyes or lead problem solver in JavaScript, Python, TypeScript, Java, and C++ projects, often stepping in where original developers were unavailable or stuck.
- Self-taught Julia in under two days—including earning an Intro to Julia certificate—and guided a university upperclassman through implementing Dijkstra's algorithm for an AI course project, resulting in a successful, high-scoring submission within a week.

### Highlight Tech | Multidisciplinary Technical Specialist

AUG 2018 – FEB 2021

- Developed user-friendly desktop applications using Java and JavaFX, focusing on intuitive design, performance optimization, and robust functionality.
- Designed, Implemented, and maintained responsive websites using HTML, CSS, and JavaScript, enhancing the user experience through dynamic features and mobile-first compatibility.

- Created visual presentations, talking points, and supplemental content for Computer Science courses, primarily focused on Java, ensuring clarity and accessibility for diverse learners.
- Provided personalized tutoring and technical guidance, assisting students in debugging, troubleshooting, and understanding programming concepts.
- Delivered OS-specific instruction and guidance for students using macOS, Linux, and Windows, including command-line tools, environment configuration, and platform-specific development practices.
- Conducted research and created supplemental learning resources to support students in navigating documentation, adopting best practices, and resolving development blockers.
- Managed and maintained 32 computers and supporting classroom equipment, performing hardware assembly, repairs, and software installations to ensure optimal classroom operation.
- Provided troubleshooting, maintenance support, and on-call assistance (both in-person and remotely) for classroom and student systems, including software updates, configuration, environment setup, performance tuning, and hardware repairs or enhancements.

#### United States Marine Corps | Legal Services Specialist

NOV 2015 – JUN 2017

- Coordinated and optimized schedules for six attorneys, aligning resources and priorities to ensure timely legal support and operational efficiency.
- Interfaced directly with clients to assess needs, gather requirements, and route them to the appropriate legal professionals, enhancing service quality and response time.
- Drafted, reviewed, and validated legal documents and structured data entries with high accuracy, ensuring compliance with legal standards and operational procedures.
- Identified and resolved conflicts related to client confidentiality and attorney case assignments, safeguarding data privacy and maintaining ethical standards.
- Developed and maintained structured case file management systems, improving information accessibility, traceability, and audit readiness.
- Monitored and refined internal workflows, contributing insights through recurring reports to support leadership decisions and improve team performance.
- Managed sensitive data entry and updates across secure systems, ensuring consistency, compliance, and protection of client information.
- Maintained process documentation and filing protocols, promoting team alignment and reducing friction in daily operations.

#### Various Employers | Customer-Facing & Logistics Roles

2014 – 2020 | 2024 – 2025

- Developed strong communication and problem-solving skills through direct customer interactions in fast-paced environments.
- Gained experience in multitasking, time management, and working under tight deadlines.
- Built expertise in handling transactions, managing inventory, and ensuring accuracy under pressure.
- Collaborated with diverse teams to meet business goals and maintain operational efficiency.
- Adapted quickly to different roles and industries, demonstrating flexibility and a strong work ethic.

## Education

#### Arizona Western College - Yuma, AZ

2020

- Associate of Science in Computer Science
- Associate of Science in Engineering
- Associate of Arts in Mathematics
- Associate of Science in Physics
- Occupational Certificate in Informatics with a focus on Software Development and Information Management

## App Academy - Online

2020

Rigorous 6-month, intensive program focused on full-stack web development

- Developed full-stack web applications using HTML, CSS, JavaScript, Python, React, Express, Flask, SQL, Sequelize, Redux, and SQLAlchemy
- Collaborated in agile/scrum teams, practicing pair programming and following the full software development lifecycle
- Applied best practices for code quality, testing, and version control (Git) to deliver scalable and maintainable solutions

## Certifications

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### IBM Product Owner Specialization | Coursera

2020

- Earned the IBM Product Owner Specialization after completing seven courses focused on Agile, Scrum, product ownership tools and skills, and stakeholder collaboration
- Developed expertise in defining MVPs, writing effective user stories, prioritizing backlogs, and aligning product features with business goals
- Gained hands-on experience leading Agile ceremonies, managing product roadmaps, managing backlogs, and facilitating team communication through practical simulations and case studies

### Neo4j Graph Data Science Certification | Neo4j GraphAcademy

APR 2023

- Earned the Neo4j Graph Data Science Certification after completing six courses covering Cypher Query Language, data modeling, and graph data science.
- Developed expertise in Cypher Query Language for querying, extracting, and transforming graph data.
- Gained hands-on experience migrating, cleaning, storing, and managing data in Neo4j through practical labs.

## Personal Projects

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### MyThriveDrive

In Progress

Developing a cross-platform, full-stack microservices application with a React Native (Expo) frontend in TypeScript, and multiple backend microservices, each optimized with a tailored technology stack for optimal performance.

### Local Small Business Website Revamp

In Progress

Building a full-stack Next.js web application, written in TypeScript, for a local small business, enhancing performance, maintainability, and scalability. Integrating the Payload CMS for efficient content management.

## Professional Development

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### IBM Product Owner Professional Certificate

In Progress

Coursera | Expected APR 2025

### IBM DevOps and Software Engineering Professional Certificate

In Progress

Coursera | Expected JUN 2025

### DeepLearning.AI Data Engineering Professional Certificate

In Progress

Coursera | Expected AUG 2025

## Skills

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- **Programming and Query Languages:** Python, JavaScript, TypeScript, SQL, GraphQL, Cypher, Bash
- **Frameworks:** Flask, React, Next.js, React Native, Node.js, Express, Apollo Server/Client
- **Frontend Development:** HTML, CSS, CSS-in-JS, React (Hooks, Context API, Redux, Recoil, React Router), Next.js (Server-Side Rendering, Static Site Generation), React Native (Mobile App Development), UI Component Libraries (Material UI, Chakra, Semantic UI), Cross-Platform Development
- **Backend Development:** Node.js (Express), Python (Flask), API Development (RESTful APIs, GraphQL APIs), Microservices Architecture, JWT Authentication
- **Data and Databases:** SQL (PostgreSQL, MySQL, SQLite), NoSQL (MongoDB, DynamoDB), Data Modeling, Data Extraction, Data Cleaning, Data Transformation, Sequelize, TypeORM, Mongoose, SQLAlchemy, Apollo GraphQL
- **CLIs:** Git, NPM, Yarn, NPX, Pip, Pyenv, Venv, Pipenv, create-react-app, Next.js CLI, Expo
- **Testing and Quality Assurance:** Automation (Selenium, Puppeteer), Manual Testing, Test-Driven Development (TDD), Unit Testing (Mocha, Chai), Postman, Insomnia, GraphQL Playground, Insomnia, Flipper, Sentry, DevTools
- **Version Control and Collaboration:** GitHub, GitLab, BitBucket, Jira, Trello, Asana, Slack, Microsoft Teams, Discord, Zoom, VS Code
- **Documentation:** Markdown Language (md), UML Diagramming, Swagger, OpenAPI, Notion, Confluence, Technical Documentation
- **Soft Skills:** Problem-Solving, Technical and Non-Technical Communication, Cross-Functional Collaboration, Teamwork, Time Management, Adaptability, Leadership, Mentoring, Critical Thinking, Attention to Detail
- **Project Management and Product Ownership:** Agile/Scrum Methodologies, Kanban, Requirements Gathering and Documentation, Stakeholder Management, Feature Prioritization, User Story Creation, Backlog Management, Sprint Planning, Sprint Retrospectives, Cross-Functional Team Leadership, UI/UX Understanding