John Dufresne
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LinkedIn | GitHub | Portfolio

PROFESSIONAL SUMMARY

Versatile and results-driven Full Stack Developer with a strong emphasis on frontend and cross-platform development, specializing in building responsive, user-centric web and mobile applications. Experienced in **component-based architecture**, **state management**, and **REST API integration** using React, React Native, and Next.js. Proven ability to design and implement **scalable systems** across the full software development lifecycle, from system design and implementation to deployment and performance optimization. Skilled in backend development with Node.js, FastAPI, and PostgreSQL, as well as **cloud infrastructure**, **CI/CD pipelines**, and automated testing. Thrives in Agile environments and delivers clean, maintainable, production-ready code.

EDUCATION

University of Central Florida — **Orlando, FL**
Bachelor of Science, Computer Science, GPA: 3.32 — September 2021- December 2024

TECHNICAL SKILLS

Programming Languages: JavaScript, TypeScript, HTML, CSS, Python, C, C++, Java, Haskell, Swift

Frameworks & Libraries: React, React Native, Node.js, Next.js, TailwindCSS, FastAPI, Jest, Appium, SwiftUI, SpriteKit

DevOps & Tools: AWS, Docker, Jenkins, GitHub, Postman, PostgreSQL, pgAdmin, Figma

Methodologies: Agile (Scrum), CI/CD, Test Automation, Cloud Deployments

PROFESSIONAL EXPERIENCE

Software Engineer — **December 2025 – Present**
Letheia — Part-Time

- Architected a **data-driven, component-based character system** using SpriteKit and JSON, enabling multiple characters, stages, and visual variations
- Designed a **modular Companion Rig architecture** using attachment points (vs hard-coded positions) to dynamically assemble bodies, eyes, pupils, and overlays across visually distinct character types
- Refactored an early MVP into a **scalable system architecture** by separating models, stores, nodes, and scene logic, significantly improving extensibility and debuggability
- Implemented **runtime configuration resolution** and stage-based visual progression and a flexible rendering pipeline supporting layering, z-ordering, runtime asset loading, and future animation hooks

Full Stack Developer — **May 2025 – August 2025**
Axis LLC — Contract

- Architected a **Next.js web application for administrative management** of sponsor (advertiser) content across the Axis mobile platform
- Implemented **React Context–based state management** within a **client-server architecture**, orchestrating sponsor creation, media processing, caching, and real-time database synchronization
- Designed **secure authentication** using Firebase Google OAuth with HTTP-only cookies and Next.js middleware
- Built a **media management pipeline** with **client-side validation**, AWS S3 integration, and automated database synchronization
- Developed **proxy API architecture** interfacing with Swift Vapor backend services

Full Stack Developer | Team Lead: DevOps & QA — **February 2024 – January 2025**
Army Reserve Mercury — UCF Senior Design Capstone

- **Led a 5-person development team** building a cross-platform web and mobile application, focusing on DevOps automation, bug fixing and system reliability.
- Managed **Agile Scrum processes** including sprint planning and daily standups to deliver project milestones on schedule.
- Served as **technical liaison with stakeholders,** translating requirements into technical specifications and delivery roadmaps.
- Built automated testing and CI/CD pipelines (Jest, Appium) **reducing post-release defects by 40%** and improving delivery reliability.
- **Developed comprehensive release documentation,** versioning strategies, and deployment processes to support seamless product rollouts and minimize operational risk.

PROJECTS

Dirt's Garage - Web App *(Next.js, PostgreSQL, AWS)* — **August 2025**

- Built a **full-stack automotive shop management system** with customer/vehicle tracking, work orders, parts inventory, and automated PDF invoice generation using Next.js
- Designed and deployed a **relational database schema on AWS RDS**, supporting **REST-style API interactions**, secure authentication, real-time data synchronization, and AWS S3 integration for photo/video media
- Delivered a **responsive, mobile-friendly UI** supporting labor calculations, inventory workflows, and technician-friendly job tracking

Budget Buddy - Cross-Platform Mobile App *(React-Native, PostgreSQL, FastAPI, Docker)* — **March 2025**

- Architected a **personal finance mobile app** with hierarchical state management for budgets, categories, and transactions using React Native
- Built a **secure FastAPI + PostgreSQL backend** with JWT authentication and hashed data storage to protect sensitive financial information

Parallel Sudoku Solver - (Java, ForkJoinPool) — **April 2024**

- Implemented **parallel and sequential Sudoku solvers** using Java's ForkJoinPool, achieving a **7% performance improvement** on complex puzzles through multithreaded backtracking
- Designed an **adaptive threading strategy** with dynamic depth control to efficiently balance computational resources across puzzle complexities