

# Elijah J. Taylor

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## Principal Software Engineer (Full-Stack, Platform)

Full-stack engineer with 15+ years designing, building, and operating production web platforms across backend, frontend, and cloud infrastructure. Built a cloud-based ecommerce platform from the ground up, scaling it to power two global storefronts and \$100M+ in annual revenue. Actively writes production code across backend and frontend systems using .NET/C#, TypeScript, Vue, React, and AWS.

## Technologies

- Frontend: Vue, React, TypeScript, component-based architecture, Webpack, Vite
- Backend: C#, .NET, Node/TypeScript, REST APIs, event-driven systems
- Cloud: AWS (EC2, S3, RDS, SQS, CloudFront, CloudWatch and others)
- DevOps: CI/CD (GitHub Actions), deployment automation, zero-downtime releases
- Data: SQL Server, MongoDB, domain modeling, data-intensive workflows
- AI: LLM API integration (OpenAI), prompt design, applied AI features in production systems

## Selected Systems Built

- **Distributed ecommerce platform** powering two global storefronts and \$100M+ annual revenue, supporting end-to-end customer workflows from product discovery through order automation
- **AI-assisted ecommerce search enhancements**, including a custom spell-check and phrase suggestion system using LLM APIs to improve query quality and product discovery at scale
- **High-throughput image rendering pipeline** processing 3M+ images/day across a 30M+ asset library, forming the operational backbone of product fulfillment
- **Queue-driven worker services** for order processing, payments, image preparation, and batch workflows, improving scalability and isolating failure domains
- **Product ranking and experimentation framework** enabling A/B/N testing of merchandising algorithms and data-driven optimization of conversion
- **Automated deployment system** with load balancer rotation, health checks, and rollback safeguards, enabling zero-downtime releases across horizontally scaled services
- **Service-oriented platform** providing shared capabilities including pricing, tax calculation, identity, fulfillment routing, and content management

## Professional Experience

### Principal Software Engineer (Full-Stack, Platform)

Circle Graphics (formerly CafePress / Canvas On Demand, 2009-2026)

*(Progression: Web Developer → Senior Developer → Engineering Manager → Principal Software Engineer)*

Technical lead and primary engineer for a direct-to-consumer ecommerce platform built from the ground up, supporting 24/7 global operations and over \$100M in annual revenue. Maintains hands-on ownership across system architecture, backend services, cloud infrastructure, and deployment pipelines.

## Key Contributions

- Built and evolved core services and infrastructure for a distributed ecommerce platform powering two global storefronts and \$100M+ in annual revenue, with full ownership of uptime, scalability, and deployment safety
- Designed and implemented core backend services and APIs in C#.NET supporting pricing, tax calculation, identity, fulfillment routing, and order processing workflows
- Built and scaled an automated image rendering pipeline processing 3M+ images/day across a 30M+ asset library, including all customer-provided images, forming the backbone of product fulfillment
- Implemented queue-driven worker services for order processing, payments, and image preparation, improving scalability and isolating failure domains
- Modernized a legacy monolith into horizontally scalable ASP.NET services with automated deployments and zero-downtime releases
- Built and maintained frontend build and tooling systems (Webpack, Vite), enabling scalable component development and faster iteration across multiple applications
- Implemented deployment automation including load balancer rotation, health checks, and rollback safeguards, reducing production risk during peak traffic periods
- Partnered directly with product, merchandising, and operations to deliver systems supporting SEO, conversion funnels, and fulfillment strategy

## Selected Platform Evolution & Impact

### Early Platform Development and Innovation

Built and launched the core ecommerce platform from scratch (Canvas On Demand, Great Big Canvas), replacing a legacy system and supporting 10x traffic growth within the first two years. Developed early real-time image rendering systems and a scoring algorithm that replaced manual merchandising, contributing to a 2x+ improvement in conversion rate.

### Cloud Architecture and Service Platform

Led the transition from traditional hosting to a fully cloud-based architecture, enabling high availability, zero-downtime deployments, and real-time scalability. Designed and implemented foundational services including identity (IAM), shared data services, and automated image rendering systems.

### Production Routing and Fulfillment Optimization

Designed and built a production routing system with zipcode-level precision, enabling industry-leading delivery SLAs. Created a rule engine for real-time evaluation of product, geography, and operational constraints to optimize fulfillment decisions.

### Frontend Modernization and CMS Platform

Rebuilt frontend and middle application layers across both major storefronts, consolidating desktop and mobile into a unified responsive architecture. Introduced a modern Vue-based frontend stack and developed a modular CMS enabling dynamic, on-site content management.

### Fraud Detection and Personalization Systems

Developed a fraud detection system reducing fraud rates by 80–90% within one week of launch. Designed and implemented a personalization platform integrating with CMS systems to support customer segmentation and dynamic UI customization.

## **Next-Generation Processing and Platform Evolution**

Designed high-performance image rendering pipelines and queue-based processing systems to support next-generation automation. Led efforts to modernize the platform toward .NET Core and transition away from legacy systems under board-level initiatives.

## **Additional Experience**

### **Web Manager**

Allen Systems Group (2007–2009)

- Led development and operation of global marketing websites and international web services team
- Built internal utilities that reduced content publishing turnaround from weeks to minutes
- Restructured site management workflows and improved operational efficiency across marketing teams

### **Graphic Designer**

Allen Systems Group (2006–2007)

- Designed marketing collateral, tradeshow booth graphics, and interactive Flash-based sales materials

### **Application Developer**

Heritage Broadcasting / 9&10 News (2002–2006)

- Developed and maintained three commercial websites including a high-traffic regional news platform
- Built internal content management and publishing tools for newsroom staff
- Developed internal desktop and web applications for IT asset tracking and operational workflows

## **Additional Work**

Portfolio and project examples available at:

[www.elijahtaylor.com](http://www.elijahtaylor.com)

Public examples of production systems:

[www.greatbigcanvas.com](http://www.greatbigcanvas.com)

[www.canvasondemand.com](http://www.canvasondemand.com)