

# RYAN PENROD

+1(913) 523-6862 ◊ Los Angeles, CA

[ryanmpenrod@gmail.com](mailto:ryanmpenrod@gmail.com) ◊ [linkedin.com/in/ryan-penrod](https://www.linkedin.com/in/ryan-penrod) ◊ [ryanpenrod.com](https://ryanpenrod.com)

## EXPERIENCE

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### Mid-level Full-Stack Software Engineer

Stewart Valuation Intelligence

August 2025 - Present

*Overland Park, KS*

- Proposed, built, and deployed a shared React/TypeScript npm library, eliminating 20,000+ lines of duplicated components, types, and utilities, standardizing UI across applications, and greatly reducing maintenance by consolidating fragmented implementations.
- Developed an embedded portal in Encompass (used to originate 50%+ of U.S. loans), enabling automatic and one-click order creation via templates for our users, replacing multi-minute manual form entry.
- Migrated multiple Java applications across our stack from Spring Boot 2.x to 3.x, redesigning Spring Security configuration, reworking AWS messaging and storage (SQS, S3), and dozens of other incompatible dependencies.
- Improved worst-case search time by 82%, from 3.3s to 0.6s, using predicates, lazy loading, and field exclusion.
- Implemented a transitive closure table in our MySQL database to optimize hierarchical queries, reducing most common search time by 70%.

### Software Engineer 1, Software Engineer Intern

Garmin

March 2022 - November 2024

*Olathe, KS*

- Developed applications for the G3000 Prime Integrated Flight Deck, helping to advance aircraft from analog instruments to modern touchscreen interfaces alongside a team of over 100 industry leading developers.
- Owned, maintained, and led test development for multiple flight-critical components in C, including UI fixes for ruler elements used to display pitch and altitude to pilots during flight.
- Owned and actively developed several foundational keyboard elements used across the system in C, such as logic for entering waypoint coordinates used in the flight plan and UI fixes for planning taxiway routes.
- Served as a subject matter expert for many low-level components, regularly unblocking page-level developers by diagnosing hard-to-trace issues and clarifying component behaviors.
- Authored hundreds of comprehensive tests and requirements in C in a several month push for TSO certification by the Federal Aviation Administration and G3000 Prime's release.
- Developed several features in C# for an internal .NET application, accelerating productivity for dozens of developers through intuitive, UI-driven workflows which replace arduous code-based development.

## PROJECTS

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**Game Development.** Developed an extensive [portfolio](#) of games in Unity and Godot, including a commercial-scale real-time strategy game, spanning gameplay systems, AI, controls, development tools, rendering pipelines, shaders, asset optimization, VFX, 3D modeling/animation, and more; see [ryanpenrod.com](https://ryanpenrod.com) for extensive feature breakdowns.

**Personal Website.** Designed, built, and deployed my personal website, [ryanpenrod.com](https://ryanpenrod.com), with Next.js, Tailwind CSS, Docker, and AWS ECS. Architected production AWS infrastructure including a VPC with subnets and security groups, Route 53 for DNS, Certificate Manager for TLS certificate, and an Application Load Balancer. Implemented a media delivery pipeline using AWS S3 for media storage and AWS CloudFront for CDN distribution.

## EDUCATION

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Bachelor of Science in Computer Science, University of Kansas

August 2019 - May 2023

## SKILLS

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Languages & Frameworks

TypeScript, React, Tailwind CSS, Java, Spring, C#, Unity, C, C++

Infrastructure & DevOps

AWS (ECS, S3, SQS, CodeBuild), Docker, Bitbucket Pipelines

Data & Storage

MySQL, Spring JPA, JPA Criteria Queries