# John Alvin Ambalong

## Software Engineer

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## Summary

Software engineer building production Rails applications with Hotwire, PostgreSQL, and Docker. Creator of Pangu Terminal, a resource optimization platform deployed to DigitalOcean with Kamal.

## Skills

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|---|---|
| **Languages:** | Ruby, JavaScript (ES6+), SQL (PostgreSQL), HTML5, CSS3 |
| **Frameworks:** | Ruby on Rails, Hotwire (Turbo/Stimulus), React |
| **DevOps:** | Docker, Kamal, DigitalOcean, Linux/Windows Administration, CI/CD (GitHub Actions), Git/GitHub |
| **Technologies:** | RESTful APIs, Testing (RSpec), Object-Oriented Design, JSONB |
| **Languages:** | Ruby, JavaScript (ES6+), SQL (PostgreSQL), HTML5, CSS3 |

## Projects

**Pangu Terminal | Rails 8, Hotwire, PostgreSQL, Docker, Kamal 2**

Resource optimization platform calculating material farming requirements from player inventory data

- Designed polymorphic data model with JSONB-cached aggregations avoiding recomputation on page loads
- Built cost calculation engine aggregating requirements across 10+ static cost tables and dynamic mapping tables
- Detects surplus materials eligible for 3-to-1 conversion to higher tiers, reducing total farming requirements
- Implemented cookie-based guest sessions with automatic plan migration on signup
- Containerized with Docker and deployed to DigitalOcean using Kamal 2

**Ruby Chess Engine | Ruby, RSpec, Git**

- Implemented collision detection and legal move validation for all piece types including checkmate
- Applied Single Responsibility Principle across Board, Piece, and Player classes for modular, testable code

**Pebble List | React, JavaScript, Vite**

- Built component-based architecture with React hooks managing state and data flow
- Implemented full CRUD functionality with immutable state patterns and local storage persistence

## Experience

**Information Technology Intern**, Walla Walla Community College                   Jan 2025 – Present

- Execute OS imaging and hardware assembly for 50+ workstations ensuring standardized environments
- Enforce data privacy protocols by securely wiping SSDs from decommissioned hardware
- Organize lab-usage data into executive summary reports for departmental review

## Education

**Associate of Applied Science in Software Design |** Walla Walla Community College                   Expected June 2026

Relevant coursework: DevOps & Infrastructure, Unix/Linux Systems, Database Design, Dynamic Web Design

**Undergraduate Studies (Computer Science and Mathematics) |** Washington State University                   2018 – 2019