# Reed Evans

Distributed Systems & Cloud Infrastructure

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## Education

**Columbia University**
M.S. Computer Science, NLP — Expected 2027

**Bucknell University**
B.S. Computer Engineering, B.A. Music — Jan 2020

## Skills

**Languages**
Python • Rust
Go • Kotlin

**Tools**
PyTorch • AWS • GCP
Docker

## Selected Coursework

Algorithms for Large Data • High-Performance ML • NLP • Distributed Systems • Operating Systems

## Experience

### Amazon Robotics

*Software Engineer I* — Feb 2020 – Jun 2022
*Software Engineer II* — Jun 2022 – Feb 2025

Warehouse Simulation Team – Building virtual warehouses with emulated hardware, mock inventory databases, and production software for testing, validation, and optimization of software and floor maps

Automated Storage Floor

- Led end-to-end design and implementation of the simulation solution supervising two engineers and working with 5+ teams. Caught over 70 production software issues including 12 sev1/sev2 issues before initial go-live
- Developed emulated stations, integrated with an existing robotic arm emulator, setup simulation initialization

Web UI Migration

- Conceived and led an intern project to explore the use of a new company simulation management platform, with potential to migrate off the team-owned website launcher and reduce team workload by about 10%
- Mentored the intern to deliver a narrow-scope proof of concept
- Extended the project to a scalable interim solution while designing long-term architecture

Inter-Floor Elevator

- Created a new modular elevator emulator to move containers between floors of a warehouse, supporting two distinct use cases and handling over 2,000 containers per hour. Used by an additional QA team

Outbound Unstructured Floor

- Developed a flexible workflow driver to manage all carts on the floor, supporting three operating modes with robust logic for cart handling failures and cleanup. Parallelized cart registration with green threads bringing it from several minutes to about 10 seconds on a single thread
- Implemented dynamic chute allocation in our simulations for optimizing package routing. Increased fidelity of our simulations compared to production by about 3%

Last Mile Logistics Floor

- Developed emulated stations and order generators for mock inventory database
- Wrote a polynomial evaluator in ANTLR supporting keyword variables to be evaluated with simulation state values at runtime, used for computing dynamic delay times in emulated station workflows

Platform Infrastructure Improvements

- Initiated and led org's migration to Kotlin. Trained other engineers on language features and design practices for improved null-safety, language-level concurrency, and maintainability

*Updated Jan 2025*