

COLTON MIR

SOFTWARE ENGINEER

Experienced software engineer with 6+ years in developing object-oriented programs, specializing in C++ for real-time and embedded systems. Skilled in delivering efficient, readable solutions that align with project goals and technical specifications.

PROFESSIONAL EXPERIENCE

Mastercard (Transaction Switching) - O'Fallon, Missouri



Senior Software Engineer - 03/2025 – Present

- Develops in C++ on the Single Message System, optimizing the way Mastercard connects financial institutions for debit transaction processing
- Designs and leads features: performing project requirement analysis, drafting stories, and helping junior engineers complete development work
- Leads efforts to modernize tech stack including automating GTest unit tests, maintaining CI/CD pipelines, and modernizing compiler configurations while ensuring compatibility with HP's proprietary NonStop operating system.
- Drafts agentic skills, agents, and references, leading effort to distill program specifications to markdown, reducing credit spending and context window usage
- Continues completing core Software Engineer tasks from prior role, including writing code, executing test transactions, and documenting story designs
- **Software Engineer** - 03/2022 – 03/2025
- Drafted readable documentation ranging from code design to internal tool guides
- Managed internal web application that coordinates code deliveries, ensuring successful quarterly releases through cross-team communication
- Conducted unit testing using conventional tools like GTest and niche tools like T3's bank sim and HP NonStop's Utilities to ensure code quality and functionality

Boeing (MQ-25 Stingray) - Saint Louis, Missouri



Real-time Software Engineer - 05/2020 – 03/2022

- Programmed GUIs on RC-displays that control Air Vehicle Ground-Taxiing
- Reviewed reports from UX Designers and Navy personnel to draft & revise requirements based on user feedback
- Designed and produced scripts to determine accurate geodesic distances between global coordinates
- Supported Functional Quality Testing (FQT) and Systems Integration

EDUCATION

Bachelor of Science: Computer Graphics Technology

Purdue University - West Lafayette, Indiana



- Dean's List & Graduated with Highest Distinction
- Graduated in 2.5 years

PORTFOLIO PROJECTS

(Demos available at <https://cole7mir.github.io>)

Tile Swap Mobile Game

- Developed drag-and-drop puzzle game with animated swapping puzzle pieces, compiled and packaged as an Android application
- Applied coordinate-based optimization to tile animation for smooth gameplay

Medical Nursing Educational VR Simulation

- Created a "Room of Errors" VR simulation for the Purdue Nursing Department

Ellipse Mobile App

- Programmed 2D Sidescroller of rocket ship orbiting between planets in seamless elliptical trajectories

CONTACT

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🌐 <https://cole7mir.github.io>

PROFICIENT SKILLS

- OOP in C++
- Git
- UX/UI Software Development (OpenGL, Qt, SCOBOL)
- GTest Unit Testing & Systems Integration Testing
- Agile & Scrum Workflow
- Collaboration Tools (Rally, Jira, Confluence, Bitbucket, MS Teams)
- Unreal Engine 5 Android development
- Static Analysis Tools (Checkmarx)
- CI/CD Tools, Groovy language (Jenkins, Jenkinsfiles)
- Microsoft Office Suite
- Github Copilot and AI Pair-Programming Agents
- Markdown AI Skills/Tools/Agents

FAMILIAR TOOLS

- C# & Java
- Unix & Command Line OS
- HP NonStop Utilities (Tandem, SCUP, XPRESS)
- Web App Maintenance (XAMPP – Apache, SQL, PHP)
- Splunk