Jyothir Krishnan

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jyothir21.github.io/Portfolio

Technical Skills

Languages: C/C++, Python, Java, JavaScript/TypeScript, SQL, Dart, R
Frameworks & Libraries: React, Node.js, Flutter, Flask, Scikit-Learn, NumPy, Pandas, Matplotlib
Tools & Technologies: Git, Docker, Firebase, WebSockets, REST APIs, Linux/Unix, VS Code, IntelliJ, Perforce
Machine Learning Skills: Supervised & Unsupervised Learning, Feature Engineering, Data Preprocessing, Model Evaluation & Validation, Regression & Classification, Similarity Modeling, Recommender Systems, Matrix Factorization

Experience

Teaching Assistant (Intermediate Programming) Sept 2025 – Present
University of Guelph *Guelph, ON*
- Taught advanced concepts in **C** programming language
- Conducted office hours and taught labs to aid students in the learning process of the C programming language.
- Created and graded assignments/quizzes alongside the professor. Helped to set up **Git-Lab** infrastructure for the course.

UI Engine Engineer May 2025 – Aug 2025
Respawn Entertainment *Vancouver, BC*
- Returned to the same team in Respawn Entertainment as a Software Engineering Intern, contributing to sprint tasks and resolving critical **UI bugs** to support game stability and quality.
- Collaborated with senior SS and QV engineers to investigate and fix **UI Automation Soak Bugs**, enhancing test coverage and reliability through script and code-level solutions.
- Took initiative in driving improvements to generic **UI soak testing**, aligning with Respawn's core values of ownership, trust, and cross-functional collaboration.

IT Systems Support Analyst Jan 2025 – May 2025
University of Guelph *Guelph, ON*
- Provided technical support for **Office 365** and enterprise tools, resolving tickets for students, faculty, and staff.
- Automated internal workflows with **PowerShell**, boosting team efficiency and reducing manual errors.
- Supported hybrid events and meetings while testing new Microsoft features and updating user documentation.

UI Engine Engineer May 2024 – Aug 2024
Respawn Entertainment *Vancouver, BC*
- Reworked error-handling components for the **RTK system**, enhancing stability and reliability using **C++** through the implementation of asserts and defensive fixes.
- Initiated and led discussions on establishing **new error-handling standards**, encouraging the team to adopt best practices and make more informed decisions on various error-handling approaches.
- Addressed and resolved standard **game bugs**, contributing to overall game performance and user experience.

C++ Software Engineer May 2023 – Dec 2023
Electronic Arts (EA) *Vancouver, BC*
- Diagnosed and addressed **back-end bugs** and game crashes in FC24 through the application of advanced **C++** and **Object-Oriented Programming techniques**.
- Enhanced game functionality by introducing new screen features and optimizing design elements using **ActionScript**, **Adobe Flash**, and the Frostbite Drone Engine.
- Created **Python scripts** to streamline the efficiency of Software Engineers in locating and managing screen code.
- Contributed to sprint planning tasks within an **Agile** Scrum framework, leveraging Perforce for version control.

Projects

Chaos Kitchen — Multiplayer Mobile Game | *Flutter, Dart, Flame Engine, Firebase/WebSockets* Oct 2025 – Dec 2025
- Built a **real-time cooperative mobile game** with asymmetric roles, incorporating inventory systems, object interactions, and custom mobile UI elements.
- Implemented **networked state synchronization** using Firebase/WebSockets to support smooth cross-device gameplay.
- Designed an extensible Flame-based architecture and improved performance through optimized asset loading, reduced rebuilds, and render profiling.

Movie Recommendation System | *Python, Pandas, Scikit-Learn, NumPy, Matplotlib* Sept 2025 – Dec 2025
- Developed **content-based, collaborative filtering, and hybrid** recommendation models using the MovieLens dataset.
- Implemented feature extraction with **TF-IDF**, cosine similarity, and user–item matrix factorization for rating prediction.
- Evaluated model performance using RMSE and precision/recall, supported with visual diagnostics and data-driven insights.

Education

University of Guelph Guelph, ON
Bachelor of Computing Honours, Minor in Applied Geomatics | GPA: 89% *Sep. 2021 – May 2026*
Achievements: College of Engineering & Physical Sciences Dean's Honours List (Fall 2021- Present)
Relevant Courses: C Programming • OOP Java • Data Structures • Statistics • Operating Systems • Computer Algorithms