

Riasat Mahbub

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Experience

Research Assistant

September 2023 – October 2025

Dalhousie University

Worked with civil engineers and planners to apply software engineering principles of code quality, refactoring and maintainability to simulation modeling software. Used SonarQube, Designite and RefactoringMiner to identify code smells and refactoring patterns across 482 large-scale repositories. Leveraged findings to update code quality metrics and functionality for in house simulation systems.

Associate Software Engineer

July 2022 – August 2023

Brain Station 23

Delivered features across a rotation of client projects spanning different stacks: Angular and Laravel web apps with unit and integration tests and Docker-based deployments, Ionic/Angular frontends built on parsed Moodle HTML output, and custom plugins for Moodle and WordPress. Ramped up on a new codebase for every project, which built strong instincts for recognizing where code quality and refactoring were needed.

Education

Master of Computer Science

September 2023 – October 2025

Dalhousie University

Bachelor of Computer Science and Engineering

January 2018 – January 2022

BRAC University

Projects

MBuddy

GitHub ↗

Local manga and anime recommendation engine driven by freeform queries utilizing a hybrid embeddings, metadata and textual search model. Recommendations come from a data pipeline of 189,000 entries.

August 2026

Project Tracker Extension

Github ↗

An Opencode/Pi agent extension for maintaining a file-based project knowledge graph. Uses its own CLI to help agents track of everything from simple feature requests and bug reports to larger architectural decisions.

May 2026

Aergia CV Builder

GitHub ↗

A modern, intuitive resume builder application that allows users to create professional resumes with ease. Built with drag-and-drop functionality, multiple templates, and real-time PDF generation in mind.

January 2026

Research

Understanding code smells and refactoring practices in simulation modelling systems

Paper ↗

Masters Thesis

Aug 2026

Exploring Code Smells In Simulation Modelling Systems: Effectiveness, Risks And Impacts

Jan 2026

2026 TRB Annual Meeting

On the Prevalence, Evolution, and Impact of Code Smells in Simulation Modelling Software

Paper ↗

IEEE International Conference on Source Code Analysis & Manipulation 2024

Dec 2024

City Recommender System: A Comparative Study of AI-Driven Approaches

Paper ↗

Future Technologies Conference (FTC) 2024

Nov 2024

Skills

Programming Languages: TypeScript, JavaScript, Python, PHP, SQL, HTML/CSS

Frontend: React Js, Angular, Ionic, Astro, Next.js, Tailwind CSS

Backend: Express JS, Laravel, FastAPI, Adonis Js, Firebase, PostgreSQL, MongoDB, Sqlite

DevOps & Tooling: Git, Docker, GitHub Actions, Vite, Netlify, Linux

AI/ML: PyTorch, TensorFlow, scikit-learn, Keras, llama.cpp, ollama, Pandas