

# Reshi Krish Thanga Jawahar

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Portfolio: <https://sadhax18.github.io/portfolio/>

GitHub: <https://github.com/sadhaX18/>

## PROFILE

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I'm a dedicated individual with unwavering commitment towards continuous learning and personal growth. My educational background in engineering has cultivated in me a keen sense of logical thinking and honed problem-solving abilities. I am excited about the prospect of expanding my horizons, evolving, and leaving a meaningful imprint in the world through technology.

## EDUCATION

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### MSc Computer games

Result: Distinction

2022 – 2023

Queen Mary University of London

**Skills:** C++, GitHub, Unity, JAVA, Game engine programming, Artificial Intelligence

**Relevant Modules:** Advanced Game Development (90.7%), Interactive agents and Procedural Generation (75.4%), Fundamentals of Game Design(76.1%), Computer Graphics (78.8%), Computational Game Design (67.9%), AI in games(77.6%), Multi-platform Game Development (65.2%)

### B.Tech ECE with specialization in IOT and sensors

Result: 7.6

2016 – 2020

Vellore Institute of Technology, Vellore

**Skills:** IOT, Sensors and actuators, Python, Machine learning, Wireless communication technologies, Image processing, Computer vision, Data mining

**Relevant Modules:** Problem solving and Programming (S), Object oriented programming (A), Data structures and algorithms (C), Information Theory and Coding (B), Technical Answers to Real World problems(A)

## CURRENT PROJECTS

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### Automated playtesting and analysis of Monopoly Deal - MSc Dissertation

May/2023 - Now

- Worked on Tabletop Games Framework(TAG), which is an Modern board Games and AI testing framework built in Java.
- Implemented Monopoly Deal with abstraction for imperfect information and breaking down action spaces into a series of decisions.
- Analyzed AI agent performance and Game mechanics with playtesting data.
- Collaborating with my Project supervisor to organize work into a research paper and get the work published.

## PROJECTS

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### Search for a star - Just another 2D platformer

Dec/2023 - Jan/2024

- Developed a playable 2D platformer game prototype in C++ from a provided base framework.
- Implemented a simple Entity Component architecture for code simplicity and modularity.
- Implemented an automatic tilemap visualizer from a 2D int array for easy setup of various levels.
- Implemented the Input handler pattern for managing controls and execution.
- Implemented physics and collisions using Box2D physics library for C++
- Downloadable program : <https://sadhax18.itch.io/just-another-2d-platformer>
- Code : <https://github.com/sadhaX18/Search-for-a-star/tree/main/Star>

### Driver attention monitoring - B.Tech Project

Nov/2019-Apr/2020

- Implemented a combination of feature extraction using computer vision and dynamic programming for detection of the attention levels of the driver
- Implemented real time cloud data collection and event triggers in IBM cloud.
- Deployed the complete system with Raspberry pi and tested working in a controlled environment.
- Research paper published in IJITEE ISSN: 2278-3075, Volume-9 Issue-6, April 2020.

## Game engine programming

Jan/2023 - Apr/2023

- Developed a game engine from scratch in C++ Starting from a simple working definition using object oriented programming and moving on to advanced Game Programming Patterns.
- Worked in a team of 2 using GitHub branches for efficient collaboration.
- Personally implemented Graphics system, Logic system, movement system, the base Entity Component system architecture and memory management with object pool pattern and flyweight pattern.
- Code : <https://github.com/sadhaX18/AGD-Simple-Mini-Game>

## Interactive agents and procedural generation (Troll Lair)

Jan/2023 - Apr/2023

- Developed a system for procedural generation of cave type levels in unity 2D with a modified cellular automata.
- Developed AI agents with unique characteristics using NPbehave and Movement AI libraries.
- Simulated the behaviors of generated agents in the procedurally developed levels.
- Build : <https://sadhax18.itch.io/iapg-troll-lair>

## Computational creativity

Sept/2022 - Dec/2022

- Addressed the philosophical question of "What is creativity?"
- Modified a Controlled GAN network with latent vector modification based on current performance metrics.
- Deployed and analyzed the developed system which works as a creative system as per my definition of creativity.

## EXPERIENCE / INTERNSHIPS

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### NUS / Corporate Gurukul

### Academic Workshop

Jun/2019

- Attended an academic workshop hosted by Corporate Gurukul in association with National University of Singapore
- Learned about the application of sensor tags and IOT in the planning and development of a smart city.
- Generated movement data from the public transport in Singapore using an IOT sensor tag.
- Microsoft Azure certification for developing cloud systems.

### TCS academic Internship

### Intern data analyst

May/2018 – July/2018

- Worked in the data collection and analysis of electronic appliances within a house using only the available Power logger for Non intrusive load Monitoring.
- Developed an algorithm with Machine learning techniques to form clusters of data to identify which appliances are in use.

### Becoming I Foundation(NGO),VIT

### Relationship Manager

Jan/2018 – Apr/2019

- Maintained relationships with local Schools for organizing events and sessions.
- Organized and assigned members to run sessions based on the member and school's availability.

## EXTRACURRICULAR ACHIEVEMENTS

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- Achieved 98%ile score in a national level competitive exam for logical, verbal and quantitative reasoning. **(CAT 2021)**
- Hosted multiple Online community gaming tournaments on discord for Valorant and Rainbow 6 siege.
- Volunteered at a NSS camp organized by the university (VIT).

## HOBBIES AND INTERESTS

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- Volunteering for Civil rights and social action
- Mental health awareness and feminism
- Video games, mainly couch co-op games and board games.
- Novels, especially queer romance novels. Favorite author : Alice Oseman
- Anime and Manga.