

Mayank Raj

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Experience

Senior Unity AR Developer | ARway

Mar – July 2024

- Engineered a *turn-by-turn navigation* algorithm using *AStar* and *KDTree*, optimizing pathfinding for user speed, nearest paths, rerouting, and course correction across *multi-floor* venues.
- Designed and implemented *custom shaders* and materials to elevate the visual style of AR navigation paths.
- Developed a *robust toolkit* to automatically verify dependencies, layers, and packages upon importing the SDK.

Unity AR Developer | ARway (Nextech AR Solutions)

Aug 2020 – Feb 2024

- Integrated Microsoft Azure Spatial Anchors for *precise real-world localization* and visual landmark anchoring.
- Engineered a *custom plugin* for viewing PCD files, adding *point cloud visualization* capabilities to Unity.
- Built an *AR artwork experience* at London Wall Place with visuals and music by Guildhall School of Music & Drama and London Symphony Orchestra, plus a *location-based AR game* using ARway's indoor navigation SDK.
- Optimized asset management with conditional loading, improving performance and *reducing memory footprint*.

Unity VR Developer | Round Them Oranges

Jan – May 2021

- Built Virtual Segments – a digital *web & VR art gallery* that showcases diverse artworks from around the world in an immersive and engaging way, keeping engagement with art alive during the COVID-19 lockdown.

Senior AR Developer | Noora Health

April – June 2020

- Developed "Virus Warrior" – a coronavirus shooting game in AR – and "PPE Trainer" – an *AR nurse training* app for the Donning/Doffing procedures of the COVID-19 equipment.

AR Intern | CrispAR and Vkenn Technologies

Mar – April 2019

- Created a specialized AR app for restaurants, enabling customers to preview food items in 360° before ordering.

Projects

Planets AR – (<https://planetsar.agrmayank.com>)

- An Augmented Reality (AR) application, featuring planets, dwarf planets and moons across our solar system, with *100k+ downloads* across Android, iOS and JioGlass XR headset platforms.

Bravery of the Coward – (<https://agrmayank.itch.io/bravery-of-the-coward>)

- A 1-bit platformer game exploring the themes of light, dark, and of moral choices, where your in-game *decisions* shape the ending you reach.

Spacey's Adventure – (<https://play.google.com/store/apps/details?id=com.AgrMayank.SpaceysAdventure.Lite>)

- A *virtual reality (VR) space combat* game where players wield a lightning blaster, upgrade weapons, and battle enemy waves to save their planet.

NST-SSD – (<https://northshore.health/#nstSsd>)

- Therapeutic AR*, designed to cure negative symptoms of schizophrenia by stimulating reward circuitry in the brain.

InAssist – (<https://youtu.be/pZtLij9ytS0>)

- An AR assistant for *visualizing home interior designs*, enhancing customer decision-making during renovations.

Bullyt – (<https://agrmayank.itch.io/bullyt-scale>)

- A fast-paced puzzle adventure where every decision tips the balance between positive and negative outcomes.

Education

Trident Academy of Technology (TAT), Bhubaneswar

2016 – 2020

B.Tech – Information Technology

- Built “Tri-Netra” an Augmented Reality based *information and navigation system* with a 3D model representation.
- Directed a team in developing a *3D-printed* spider-bot integrated with *AR using IoT* at Cisco thingQbator.
- Created and launched an *e-commerce shopping website* utilizing WordPress, Shopify and Amazon Affiliate.
- Engaged in AR, VR, and Blockchain workshops hosted by CISCO, NASSCOM, GDG Bhubaneswar, and KIIT.

Honors & Awards

Xbox Game Camp Asia – 2024

- Led Team Amnesia in XBOX Game Camp Asia 2024 by Microsoft, to build a game prototype for "KeyBound".

Top 10 Finalist, BYOG Game Jam – India Game Developers Conference (IGDC), Nov 2023

- Led the design and development of "TimeBound: History's Legacy" in the BYOG game jam by IGDC.

Speaker and Made With Unity Showcase – Unity Day, Pune 2019

- Selected as a speaker for "Foggy Forest," one of the 9 *Made With Unity* (MWC) showcases.

Skills

Domain Expertise – Augmented Reality (AR), Virtual Reality (VR), Game Design, Game Development

Tools & Languages – Unity, C#, Blender, ARFoundation, ARCore, ARKit, Firebase, Flutter, Python, C++, Git, Jira