

Bharath Kumar

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TECHNICAL SKILLS

Engines: Unity

Languages: C#, C++, Python, Java, C, SQL, Javascript, React

Networking & XR: Netcode for GameObjects, Photon Engine, AR/VR/MR Development

Systems & AI: Reinforcement Learning, Unity ML Agents, Shader Graphs

Tools & Architecture: Git, GitHub, Unity Version Control, SOLID, Design Patterns, Optimization

EDUCATION

Manipal Institute of Technology

Bachelor of Technology in Computer Science

Specialization: AI & Machine Learning

Manipal, India

Sep. 2022 – May 2026

EXPERIENCE

Game Developer

Lila Games

- Contributing to development of a competitive mobile extraction shooter, focusing on core gameplay systems, combat mechanics, and performance optimization.

March 2026 – Present

Bangalore, India

Unity AR Developer Intern

Honeywell International, Inc. (via Andor Tech)

- Built a cross-platform AR remote assistance app in Unity using ARFoundation and WebRTC
- Replaced the Agora SDK with a custom Node.js signalling server, cutting streaming costs by nearly **98%**
- Streamed AR camera feed to enable video calling, and synced hundreds of data points using a custom codec

June – Aug. 2025

Bangalore, India

Unity Head

Project V.ARISE

- Led the Unity Subsystem at Project V.ARISE, overseeing work distribution and project planning for a team of 10 developers
- Handled the majority of Unity development for XR applications
- Conducted workshops, interviews, and mentored new members
- Led major projects (see PhobiaXR, VR Flight Simulator under Projects)

Apr. 2024 – May 2025

Manipal, India

Game Developer Freelancer

BoaXR

- Freelance developer for "Wallball", a Mixed Reality shooting game
- Implemented core gameplay mechanics and developed custom debugging tools to streamline development
- Fixed bugs across all areas of the game, including level design, enemy behaviour, UI, and animations

Nov. 2024 – Feb. 2025

Remote

VR Development Workshop Instructor for Faculty

NITTE University

- Taught Unity fundamentals, VR integration, and robotics concepts to engineering faculty
- Guided participants through calculating and implementing a mechanical arm in VR for hands-on learning

Dec. 2024

Mangalore, India

Game Developer Intern

Red Panda Games

- Developed a reusable tutorial system and implemented four in-game tutorials for a mobile RTS multiplayer game
- Worked on multiplayer networking and contributed to troop AI, spawning systems, UI, and cutscenes
- Resolved cross-system bugs involving Firebase integration, building logic, and game flow

May – July 2024

Remote

PROJECTS

The Outpost (RL) (Solo developer) | *Unity, C#, ML Agents, Reinforcement Learning*

Sept. – Nov. 2025

- Developed an RL based third person shooter where agents learn navigation, aiming, and combat using Unity ML Agents
- Built staged training environments with tuned rewards, action masking, and curriculum based progression for stable learning
- Improved overall game feel with camera shake, hit reactions, muzzle flashes, post processing, and dynamic sound feedback

PhobiaXR  (Team Lead) | *Unity, C#, XR SDKs, Python, OpenCV* Dec. 2024 – Feb. 2025

- Ideated, designed, and developed a VR-based phobia exposure therapy simulation
- Integrated real-time heart rate data from smartwatches to dynamically adjust in-game environmental intensity based on user stress levels
- Finished in the **Top 1%** out of **2200+** submissions at the **All India XR Creator Hackathon 2024-25** – a 3-month, national-level competition open to startups, professionals, and students, conducted across 3 competitive rounds
- Led the team and handled all aspects of Unity and VR development

VR Flight Simulator  (Technical Lead) | *Unity, C#, XR SDKs, Cesium for Unity* March – Oct. 2024

- Led the development of a VR Flight Simulator in collaboration with the Aeronautical Department at MIT, Manipal, guiding users through startup, takeoff, cruising, and landing procedures
- Handled team leadership, work distribution, and presented project specifications to the university's board of directors, securing funding for research and development
- Implemented realistic flight physics and cockpit interactions, including buttons, levers, and external joystick input
- Developed a modular, ScriptableObject-based state machine to guide player progression and interactions
- Integrated Cesium for Unity for real-world terrain rendering; implemented shifting origin, LOD, and occlusion culling for performance optimization

Pressure Point  (Solo Developer, Published on Play Store) | *Unity, C#* Nov. 2020 – March 2021
Hypercasual mobile game

- Developed and released a one-tap hypercasual game with Story and Endless modes
- Implemented progression, shops, power-ups, and 300+ skins
- Integrated Unity Ads and in-app purchases for monetization

VR Visual Acuity Estimator  (Unity Developer) | *Unity, C#, XR SDKs, Netcode* July – Oct. 2024

- Developed in collaboration with a PhD student to estimate visual acuity with **over 90% accuracy**
- Implemented multiplayer networking using Netcode with efficient data synchronization
- Engineered Snellen fraction logic based on research findings for accurate vision estimation

Mixed Reality CPR Sim (Unity Developer) | *Unity, C#, XR SDKs* Nov. 2023 – Jan. 2024

- Developed a Mixed Reality CPR training simulation in collaboration with KMC Hospital using a sensor-equipped dummy
- Programmed a state machine to control simulation flow
- Projected live chest compression data onto a graph for real-time feedback

AWARDS

- **Top 1% (2200+ submissions) - All India XR Creator Hackathon 2024-25**
A 3-month, national-level competition open to startups, professionals, and students, conducted across 3 competitive rounds. Developed PhobiaXR (see under *Projects*)
- **Best Gameplay - International Peanut Game Jam 2022**
Developed *Zombona* (see under *Projects*) and won a cash prize of \$100
- **Second Prize - TISB GameJam 2022**
Won a cash prize of Rs.5000
- **Published *Pressure Point* on the Google Play Store, 2021**
A hypercasual single-tap game
- **Second Prize - GameJamTitans 2020**
State-wide competition hosted by Design Championship
- **Second Prize - GameJamTitans 2018**
State-wide competition hosted by Design Championship
- **First Prize - GameJamTitans 2016**
State-wide competition hosted by Design Championship. Won Rs.10,000 and tickets to attend the NASSCOM Game Developers Conference 2016