

# Bharath Kumar

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## TECHNICAL SKILLS

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**Engines:** Unity, Unreal

**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, CI/CD Pipelines, Unity Version Control, SOLID, Design Patterns, Optimization

## EDUCATION

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### Manipal Institute of Technology

*Bachelor of Technology in Computer Science*

*Specialization: AI & Machine Learning*

Manipal, India

Sep. 2022 – May 2026

## EXPERIENCE

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### Game Developer (Unity)

March – May 2026

*Lila Games (Project cancelled; company downsized by 60%)*

*Bangalore, India*

- Developed gameplay systems for Lila BLACK, a multiplayer mobile extraction shooter
- Built the **FTUE** tutorial to improve Day 1 retention
- Built internal tools, including a data validation system for validating **1000s of backend data entries**
- Implemented the Missions UI and implemented game localization
- Fixed bugs across networking, UI, and combat

### Unity AR Developer Intern

June – Aug. 2025

*Honeywell International, Inc. (via Andor Tech)*

*Bangalore, India*

- 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

### Unity Head

Apr. 2024 – May 2025

*Project V.ARISE*

*Manipal, India*

- Led the Unity Subsystem at Project V.ARISE, overseeing work distribution and project planning for a team of 10 developers
- Conducted code reviews, mentored developers, and led technical workshops
- Led major projects (see PhobiaXR, VR Flight Simulator under Projects)

### Game Developer Freelancer

Nov. 2024 – Feb. 2025

*BoaXR*

*Remote*

- 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

### Game Developer Intern

May – July 2024

*Red Panda Games*

*Remote*

- 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

## PROJECTS

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### 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**
- Led the team and handled majority 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
- **Optimized performance** using LOD, occlusion culling, and shifting origin for large-scale terrain rendering

**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 **90%+ accuracy**
- Implemented multiplayer networking using Netcode for synchronized testing

## TOP AWARDS

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- **Top 1% (2200+ submissions) - All India XR Creator Hackathon 2024-25**  
3 month long national-level competition. Developed PhobiaXR (see under *Projects*)
- **Best Gameplay - International Peanut Game Jam 2022**  
Developed *Zombona* (see under *Projects*)
- **Published *Pressure Point* on the Google Play Store, 2021**  
A hypercasual single-tap game
- **First Prize - GameJamTitans 2016**  
State-wide competition hosted by Design Championship. Won tickets to attend the NASSCOM Game Developers Conference 2016