

# Muheeb Uddin

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## EDUCATION

### Karachi Institute of Economics & Technology

BS in Computer Science

Karachi, Sindh

Graduation Date: Jan 2022

## WORK EXPERIENCE

### Pentagon Games

Sr. Software Engineer

Karachi, Sindh

Aug 2023 - Present

- Developing a Metaverse on **Unreal Engine 5** using **C++** and **Houdini**
- Developed AR applications for room scanning, body tracking, and hand tracking using ARFoundation, **OpenCV** and **MediaPipe** with **Unity**, **C++** and **C#**
- Developing APIs on **.NET C#** and **Node.js Typescript** for backend using **PostgreSQL** as database, implemented **OAuth2** and Unit Testing
- Leading the development of smart contracts for various games, including cross-chain and staking contracts using **Solidity**
- Developing and Managing to 2D game IPs such as Chain Arena and Chain Guardians  
<https://pentagon.games/>

### [Ethermon.io](#)

Software Engineer

Karachi, Sindh

Jul 2021 - Jul 2023

- Developed 3D/2D games on **Unity** using **C#**
- Managed backend development with **Node.js (TypeScript)** and **MySQL**, handling CORS and implement **OAuth2** for **Google Auth** and **Facebook Auth**.
- Created, maintained, and deployed smart contracts on Polygon and Ethereum using **Solidity**
- Implemented interaction with smart contracts using **Web3.js** and **React.js**
- Developed AR-based games allowing in-game character interaction via mobile browsers using Unity and C#
- Launched cross-platform gameplay in Decentraland and contributed to various game modes and features  
<https://ethermon.medium.com/>

### Inzilo

Backend Developer

Karachi, Sindh

Dec 2019 - May 2021

- Developed web-app backends using **Node.js** and **TypeScript**
- Created desktop applications using WinForms and **C#**
- Designed efficient APIs and managed databases with **MySQL (TypeORM)** and **MongoDB (NoSQL)**  
[https://www.glassdoor.sg/Overview/Working-at-Inzilo-EI\\_IE1941705.11,17.htm](https://www.glassdoor.sg/Overview/Working-at-Inzilo-EI_IE1941705.11,17.htm)

## PROJECT EXPERIENCE

### Pentagon Games

HEXR

Karachi, Sindh

- Developing AR based Room generating application and responsible for the whole app to the production, we launched it on iOS only and the SDK we are using only supports LiDAR but we are also finding ways to optimize for Android and non LiDAR iPhones, approach I am going for is **Gaussian splatting**
- Created backend to do authentication and storing room to our server to be downloaded later

- Tech Stack: C#, Unity, .NET Core, PostgreSQL
- <https://apps.apple.com/gb/app/hexr/id6502117978>

## Pentagon Games

Karachi, Sindh

### *HexagonCity*

- Gameplay programmer on this openworld game and developed procedural buildings and land using Houdini Engine Plugin for Unreal. Developed some of the UI using Unreal Widget and Blueprint but mostly used C++ for development for performance reason
- Tech Stak: C++, Unreal Engineer 5.2, Houdin
- <https://hexagon.city/>

## Pentagon Games

Karachi, Sindh

### *Hand Tracking Using MediaPipe*

- Creating Hand Tracking plugin using **OpenCV 4.1** and **MediaPipe** with C++ for Unity, overcoming limitations such as using **Bazel** and **Tulsi** on a Mac M1. I created this plugin using C++ so it can be used for Android as well later on as of right now its for iOS
- Tech Stack: C++, OpenCV4.1, Mediapipe, Bazel, Tulsi

## Ethermon

Karachi, Sindh

### *Ethermon*

- Developed APIs and microservices for staking, NFTs, and airdrop functionalities to handle frequent web3 call failures in public blockchains.
- Developed Games using Unity like Ethermon AR(WebGL based AR game) and Ethermon Racer(Infinite racer brawl game) with WSS for PVP experience.  
Note: Site is down as its got acquired by Pentagon Games but can google it still shows alot of content.
- Tech Stack: Typescript, Node.js, Solidity, MogoDB

## Inzilo

Karachi, Sindh

### *Inzilo*

- Developed the backend for Inzilo, a CRM application used for delivery services, employee status tracking, and POS for shops and salons. Created a chat support system using WSS, which interacts with POS hardware devices like StarMicronics. The **WSS** on the **WinForm** application communicates with the backend Node.js, notifying the owner of successful payments on the web app and storing purchase information. Technologies used include Node.js, TypeScript, MongoDB, and C#.
- Tech Stack: C#, Typescript, Node.js, WinForm, Solidity, MogoDB

## Majini

Karachi, Sindh

### *Personal Project*

- Trained a large language model (LLM) to convert text to images for an AI NFT project, utilizing libraries such as Pandas, Scikit-learn, and **HuggingFace**. Developed Docker image for this application with yml.
- Tech Stack: Python, Typescript, Node.js, HuggingFace, Midjourney, Pytorch MongoDB, MySQL

## Pentagon Games

Karachi, Sindh

### *Motion Capture (MoCap)*

- Developed using Unity AR Foundation and ARKit, generating animations based on human movement without advanced motion capture technologies, not released for public use for now.
- Tech Stack: Unity, C#, C++

## Final Year Project

Karachi, Sindh

### *Deception Aura*

- Developed application that allows business to generate AR based ads. When business generates ad they share some assets in they will get a QR Code which they can place on any of their product, when this QR Code got scanned by consumer it will bring up either some game or some advert for consumer in AR and Property sellers can place a QR code on banners that, when scanned, generates the entire house structure in AR.
- Tech Stack: C#, Typescript, Unity, Node.js, MySQL

## SKILLS & INTERESTS

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- **Programming Languages:** C++, C#, Python, TypeScript, Solidity, Java
  - **AI Technologies:** Room tracking, body tracking, hand tracking using OpenCV, MediaPipe, Scikit Learn, Pandas, HuggingFace and Tensorflow
  - **Game Development:** Unity, Unreal Engine
  - **Backend Development:** Node.js, .NET Core, Django
  - **Tools & Technologies:** Houdini, Docker, Postman, Git, Github,
  - **Databases:** MySQL, PostgreSQL, MongoDB, Oracle, Redis
  - **Blockchain:** Ethereum, Polygon, BNB, CORE, BASE, LayerZero
  - **Smart Contracts:** ERC-20, ERC-721, ERC-1155, ERC-404
  - **APIs & Microservices:** OAuth2, CORS, Docker, Design, Development, and management
- Interests:** AI/ML, Game Development, Blockchain