

ISRABEL

LEAD RESEARCH ENGINEER

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Lead Research Engineer with 9+ years of experience in real-time 3D technologies (Unity, Unreal), synthetic data generation, simulation development, and interactive visualization systems. Proven expertise in building high-fidelity virtual environments, digital twins and automotive in-cabin simulations. Strong foundation in software engineering, real-time rendering, and system optimization, with a focus on delivering accurate, efficient, and visually rich simulation solutions. Experienced in advanced visualization technologies, including VR/MR, and passionate about user-centered design, UI/UX, and next-generation digital experiences.



Software Expertise

Unreal Engine		Advanced
Unity 3D		Upper intermediate
Blender		Intermediate
AutoCAD		Beginner
NVIDIA Omniverse		Elementary
NVIDIA Isaac Sim		Elementary
Python		Upper intermediate
C#		Upper intermediate
React, Angular		Intermediate
DevOps (Git, Jenkins, Docker)		Upper intermediate
Node.js, Express, MongoDB		Intermediate
Figma, Canva		Intermediate

Meta Quest 3 or Quest 3S Development

Upper intermediate

OpenGL

Elementary

OpenUSD

Elementary



Work Experience (2017 - Current)

2024-04 -
Current

Lead Research Engineer

Hyundai Mobis, Hyderabad, India

- Using Unreal Engine, developed synthetic datasets for car in-cabin monitoring systems, covering both Occupant Monitoring System (OMS) and Driver Monitoring System (DMS) scenarios.
- Created realistic human avatars with Unreal Engine Metahumans, featuring customized sitting postures, hand gestures, and occupant behaviors.
- Integrated seatbelt mechanisms using cable-based simulations for physical interactions
- Implemented segmentation workflows using custom depth and post-process materials to generate label and instance maps for AI model training.
- Created and integrated facial expressions using Unreal Engine Metahuman Animator to achieve realistic human emotions.
- Applied lens distortion effects to simulate real-world camera characteristics and generate highly realistic image outputs
- Focused on achieving high visual fidelity and annotation-ready datasets optimized for computer vision and AI applications.
- Designed and implemented UI using Figma and Unreal's UMG.

2022-12 -
2024-03

Senior Research Engineer

Hyundai Mobis, Hyderabad

- Worked on generating synthetic data for the front camera with Unreal Engine.
- Developed high-fidelity 3D environments in Unreal Engine with procedural generation techniques.
- Integrated Unreal Engine with Python executable for distorting the images with camera parameters.
- Quickly gained proficiency in React and Three.js to contribute to point cloud visualization and rendering within a React-based web application.

2021-10 -
2022-11

Technology Analyst

Infosys Ltd., India

- Created Unity multiplayer live quiz game with dedicated Server-Client Model with Mirror framework.
- Using MakeHuman, integrated human models into a virtual classroom environment.
- Worked on animations, navmesh, audio to create better user experience.

- Worked with post processing, lighting, timelines, cinemachine and camera stacking to provide a visual treat for users.
- Used Figma and Unity UI to improve game UI/UX for better user experience

2019-09 - **Senior Software Engineer**

2021-09

Infosys Ltd., India

- Developed better-looking and highly interactive UI elements with React.
- Researched multiple options to convert a 2D front end page into 3D front end page.
- Worked on creating virtual hall setup with Unity for an internal corporate event.
- Used Unity Timelines, to create cutscenes for landing pages.
- Focused on Unity 3D and developed basic 3D games.

2017-02 - **Software Engineer**

2019-08

Infosys Ltd., India

- Started career as an end to end developer on Oracle ATG Platform's product development and got certified by Oracle.
- Participated in architecture, design and implementation of back-end features using NodeJS(Express), MongoDB.
- Successfully supported 2 projects for Angular/React.
- Created WebGL based games with Unity for the webpages



Education

2012-06 - **Bachelor of Engineering: Mechanical Engineering**

2016-05

Panimalar Engineering College (affl. Anna University) - Chennai, Tamil Nadu

2010-06 - **Higher Secondary: Bio Maths**

2012-05

Kurinji Higher Secondary School - Namakkal, Tamil Nadu

1998-06 - **High School**

2010-05

Vairams Matriculation School - Pudukkottai, Tamil Nadu



Certifications

2022-09 Microsoft Certified : Azure AI Fundamentals

2022-09 Microsoft Certified : Azure Data Fundamentals