LOKESH **KOSURI**

Creative Professional with 8 years of experience in IT & Extended Reality Industry
Address: Bangalore · Phone: +91 9790591435 · Email – klokesh113533@gmail.com
Portfolio: https://lokeshkosuri.github.io/ (Visit for References)

An enthusiast who is constantly looking to change the way we interact with applications of the real-world using Extended Reality (Like Augmented Reality, Mixed Reality, Virtual Reality, Hyper Reality, etc.) and Metaverse.

SKILLS

- Solid experience in AR application pipeline development for various platforms like Mobile, Web, and HMD devices Technologies
- Very good with creating AR/MR based product development
- Built several exciting real-world applications with Indoor Navigation & Outdoor Navigation mechanisms
- HoloLens 2 based application implementations using object detection, model targets, special anchors, remote assistance, and instruction-based guides.

- Worked on several real-world case studies and simulations through Virtual Reality Experiences
- Strong understanding of all aspects of 3D design and graphic libraries
- Built several AR/VR Based Training Modules for several domains like Semiconductor, Aerospace, Manufacturing and Oil and Gas
- Implemented several assistive reality solutions using realware HMD, frontline, and Vuforia Studio Applications.

TECHNOLOGIES

- C#, JAVA, JSON, XML, SQL
- AR.JS, THREE.JS, JavaScript, HTML, CSS
- 8THWALL, Zappar, Blippar
- A-Frame, WebXR, Google Model Viewer
- AR Foundation, EasyAR, ViewAR
- MAPBOX, LBAR, and GeoJS
- WIKITUDE (CROSS-PLATFORM AR)
- Mixed Reality Headsets, HOLOLENS 1 & 2
- HTC VIVE PRO, COSMOS
- OCULUS QUEST 2, OCULUS RIFT S

- UNITY3D LIGHTING – HDRP, URP PIPELINES, ASSET BUNDLES, SHADER GRAPH, PROFILER, LOD PHOTON UNITY NETWORKING, ANIMATION CONTROLLER, BLEND TREES
- UNREAL ENGINE 4
- KNOWLEDGE OF MAYA, BLENDER SUBSTANCE PAINTER PHOTOSHOP
- AR KIT(IOS), Reality Composer for iOS, AR CORE(ANDROID), WEBXR – AR, VR, VUFORIA (CROSS PLATFORM AR)

EXPERIENCE

FEB'21 – PRESENT
XR DEV TECHNICAL LEAD, TECH MAHINDRA
DESIGNATION: Sr. Lead XR Developer
DEPARTMENT: AR/VR Delivery Team
DESCRIPTION:

+ Worked on several Client projects and innovative case studies for Tech Mahindra

ROLES AND RESPONSIBILITIES:

+ Project Estimations, Proactive Proposal Creation and Team Management
+ Application Use-case study, feature study, and architecture design.
+ Built and integrated several AR/VR apps into new and existing Native application pipelines
+ Complete development of the application end to end for extended reality apps
+ Understanding the need and developing POCs so that they can proceed further for production development
+ Used Oculus Quest 2, HTC Vive Pro & Cosmos, iPad, HoloLens 1 & 2, and MR Headsets
+ Used various SDKs such as
   - **VRTK, OpenXR, Frontline, Vuforia Studio, Wikitude, MapBox, VuforiaAR**
   - **WebAR, AR JS, 8Th Wall, Three JS, A-Frame, Web Viewer, WebXR, WebVR, WegGL**
   - **Leap SDK, Oculus Integration, MRTK**

AUG'19 – FEB'21

XR SUBJECT MATTER EXPERT, BAJAJ FINSERV(R&D)

DESIGNATION: SENIOR UNIT LEAD (XR TECHNOLOGIES)
DEPARTMENT: RESEARCH & DEVELOPMENT
DESCRIPTION:

+ Worked on several R&D projects and innovative initiatives for Bajaj Group

ROLES AND RESPONSIBILITIES:

+ Application Use-case study and architecture design.
+ Built and integrated several AR/VR apps into new and existing Native application pipelines
+ Complete development of the application end to end for extended reality apps
+ Understanding the need and developing POCs so that they can proceed further for production development
+ Used Oculus Quest 2, HTC Vive Pro, HTC Vive Cosmos, iPad, HoloLens 1 & 2 for MR
+ Used various SDKs such as
   - **AR KIT, AR Core, Wikitude, MapBox, ARToolKit, Vuforia AR**
   - **AR JS, 8Th Wall, Three JS, A-Frame, Web Viewer, ARJS, WebXR, WebVR, WegGL**
   - **Leap SDK, Oculus Integration, VRTK, MRTK, OpenXR**

JAN'18 – AUG '19

AR/VR LEAD DEVELOPER, HEXAWARE TECHNOLOGIES(R&D)

DESIGNATION: SENIOR SOFTWARE ENGINEER
DEPARTMENT: RESEARCH & DEVELOPMENT
DESCRIPTION:

+ Worked on several R&D projects and innovative POC's

ROLES AND RESPONSIBILITIES:

+ Full Stack Lead Developer (Environment Designing, Texturing, Lighting, Logic Implementation)
+ Understanding the need and developing POCs so that they can proceed further for production development
+ Used HTC Vive & Pro, Oculus Quest, Leap motion, iPad, HoloLens1 for MR development
+ Used various SDKs such as
   - **AR KIT, AR Core, Wikitude, MapBox, ARToolKit, VuforiaAR**
   - **WebAR, Three JS, Web Viewer, WebVR, WegGL**
   - **Leap SDK, Oculus Integration, VRTK, MRTK**

+ Worked on Simulation Projects and various POCs for Data Visualization and Digitization

JULY'14 – JAN '18
AR/VR APPLICATION DEVELOPER, TATA CONSULTANCY SERVICES
DESIGNATION: SYSTEMS ENGINEER
DEPARTMENTS: RESEARCH & DEVELOPMENT, INSURANCE
DESCRIPTION:
+ Worked on R&D, INSURANCE projects, and innovative POC's
ROLES AND RESPONSIBILITIES:
+ Full Stack Developer (Environment Designing, Texturing, Lighting, Logic Implementation)
+ Understanding the need and developing POCs so that they can proceed further for production development
+ Used HTC Vive, Leap Motion, iPad for VR and AR development
+ Used various SDK such as ARKIT, Vuforia, VRTK, Holo Toolkit, Leap Motion SDK, etc.
+ Worked on Simulation Projects and various POCs for Data Visualization and Digitization

PROJECTS

+ **VR SEMICONDOCTOR TRAINING APPLICATION:**
    o **TEAM SIZE:** 10 (XR Developers, 3D Designers, UI/UX Designer)
    o **JOB ROLE**: Lead Application Developer & Tech Lead
    o We created a cross-platform training solution that works with the existing LMS system and supports all platforms like Mobile, Desktop, VR, and MR HMD Devices
    o The solution helps the technicians and operators to understand different SOP of semiconductor manufacturing process equipment in real-scale using VR
    o Integrated with LMS and users can get certified with assessment at the end of each module training.
    o Design review in virtual reality using life-size 3D models of the equipment and associated toolset for installation
    o Steps with guided practice with prompts along the way to complete the recommended steps to replace the Equipment
    o Service technicians are trained virtually, saving the cost of expensive onsite training and increased learning and development
    o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, OpenXR, HTC VIVE, Oculus Quest 2, Asset Bundles, Encryption Tools, PiXZY, Maya, Substance Painter

+ **SEMICONDUCTOR MANUFACTURING WAFER TABLE MAINTENANCE MR APP:**
    o **TEAM SIZE:** 7 (UI/UX Designers, XR Lead Developer, 3D Designers)
    o **JOB ROLE**: Lead Application Developer & Tech Lead
    o We created an MR application where people needed to perform a monthly maintenance activity in chambers which takes more than 10 hours manually and our solution brought that down to 3-4 hours minutes with help of the HoloLens 2 application

- o I used model target in this solution and recognized real scale machinery to place the Augmented content and help the end-user.
- o This solution reduced the time taken and increased the productivity in the activity
- o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, OpenXR, HTC VIVE, Oculus Quest 2, Asset Bundles, Encryption Tools, PiXZY, Maya, Substance Painter

- **+ AIRPLANE FAMILIARIZATION PROJECT:**
  - o **TEAM SIZE:** 5(UI/UX Designer, Application Developer, 3D Designer)
  - o **JOB ROLE**: Lead Application Developer & Tech Lead
  - o Created an airport landing and takeoff familiarization application for one of the leading US airline simulation company for their pilot's understanding of very difficult and unknown locations to land the flight.
  - o We created the simulation in Untiy3D using real parameters and physics.
  - o Application is created for pilots to use as a familiarization tool for understanding the airport runway and space in an iPad
  - o We used login oath and Asset bundles for localizing the 3D heavy data and optimized it for mobile devices to run smoothly
  - o Subject matter analysis, creation of real-world terrain and simulation algorithm in 1:1 scale, and development of an optimized scalable application with a capability of at least 200 airports
  - o This solution reduced the time taken and increased the productivity
  - o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, iPad, Asset Bundles, Encryption Tools, PiXZY, Maya, Substance Painter

- **+ OFFICE SPACE INDOOR NAVIGATION (WITHOUT ANY EXTERNAL DEVICE USED/NO WIFI/NO BLUETOOTH):**
  - o **TEAM SIZE:** 2(UX Designer, Application Developer)
  - o **JOB ROLE**: Lead Application Developer & Tech Lead
  - o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, AR Core, AR Kit, AR Foundation by Unity, MapBox
  - o I created an application where we only need the floor plan of the premises to create the virtual navigation path for the office space.
  - o We placed several digital objects and video and Image content and stitched the path for Bajaj Offices.
  - o We can use this solution to any kind of office space or newly built assets to give a tour of the premises without any human assistance
  - o We created a virtual bot that will talk to the visitors and take the questions.
  - O **EXAMPLE REFERENCE:** Link

- **+ BAJAJ FINSERV VIRTUAL RECEPTIONIST USING WEBVR:**
  - o **TEAM SIZE:** 3(UX Designer, 3D &UI Designer, 1 - Application Developer)
  - o **JOB ROLE**: Full Stack Developer (AR Lead Application Developer, Core Development, Environment Designing, Scene Lighting)
  - o I created this application using AWS Sumerian and it is hosted in the same place as a WebVR experience.

- We have deployed this in the Bajaj technology innovation center and you can interact with the assistant and book events and meetings with people and take a virtual tour of the place virtually.
- The assistant auto recognizes you if You have a booking already through face rec. technology.
- **SOFTWARE AND HARDWARE TOOLS USED**: AWS services and Sumerian and JavaScript, Touch Displays.

+ **BAJAJ FINSERV AR STORE LOCATOR/NAVIGATOR:**
  - **TEAM SIZE:** 4(UX Designer, 3D &UI Designer, 2 - Application Developer)
  - **JOB ROLE**: Lead Application Developer & Tech Lead
  - Implemented AR store locator for Pune Bajaj store locations using lBAR & our store latitude and longitude details and the application is in the beta testing phase.
  - Users can find a nearby store, get directions, and get rewards by reaching the same.
  - Using Bajaj EMI store data, our application can track the user and push the offers according to the user location.
  - **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D & GPS(LBAR), AR Foundation.

+ **BAJAJ FINSERV SCANAR:**
  - **TEAM SIZE:** 2(UX Designer, Application Developer)
  - **JOB ROLE**: Lead Application Designer & Developer
  - **SOFTWARE AND HARDWARE TOOLS USED**: VuforiaAR SDK, Unity Asset Bundles, AR Core, AR Kit.
  - As everyone knows how difficult it is to make employees learn and understand company updated policies, we came up with an AR solution that can excite them
  - This is an AR solution built where you can scan your laptop screen and consume company information and learning programs.
  - A Virtual person will come in front of you and explain the concept in Augmented Reality.
  - We have Integrated this application into the existing Bajaj Internal Native Application and this App is live and serves as the company's communication platform. The app content can be changed remotely from anywhere to update the content every day.

+ **BAJAJ FINSERV STORE GUIDE BOT:**
  - **TEAM SIZE:** 4(UX Designer, 3D &UI Designer, 2 - Application Developer)
  - **JOB ROLE**: Full Stack Developer (AR Lead Application Developer, Core Development, Environment Designing, Scene Lighting)
  - This virtual bot can help users with in-store navigation and Product queries in the shop floor environment and can act as an assistant.
  - This uses the Framework of indoor navigation and can help the user and can be instantiated separately also for customer support and the application is in the last testing phase.
  - **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, AR Foundation, AIML 2

+ **MAKE A WISH AR:**

- o **TEAM SIZE:** 3(UX Designer, UI Designer, Application Developer)
- o **JOB ROLE**: Full Stack Developer (AR Lead Application Developer, Core Development,
  3D Object Creation, Environment Designing, Scene Lighting)
- o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, Vuforia Ground Plane (AR Core, AR Kit).
- o This is an AR Application built for Bajaj Finserv customers where users can place the Virtual appliances and get a shop floor experience at home/in their houses and try to make a wish to buy the product.
- o Once the wish is made Bajaj Finserv will be providing offers on top of the selective products to complete the User-wish cycle.
- o This application is running live and created great opportunities for the company to generate leads.
- o **EXAMPLE REFERENCE:** Link

+ **CARD AR (CREDIT CARD & EMI CARD):** Example Reference
  - o **TEAM SIZE:** 3(UX Designer, UI Designer, Application Developer)
  - o **JOB ROLE**: Full Stack Developer (AR Lead Application Developer, Core Development, 3D Object Creation, Environment Designing, Scene Lighting)
  - o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, VuforiaAR, AR Foundation, ARCore & ARKit Support.
  - o We created a complete end to end AR application for the Credit Card & EMI Card of Bajaj Finserv which virtually shows the card
  - o The app shows the branches virtually and gives directions to you to the nearest branch.
  - o It will show you all the offers on the card virtually using various virtual objects like (Air Miles, Cars on Rent, Appliances offers on EMI Network, etc.)
  - o **EXAMPLE REFERENCE:** Link

+ **VIRTUAL BRANCH:** Example Reference
  - o **TEAM SIZE:** 3(UX Designer, UI Designer, Application Developer)
  - o **JOB ROLE**: Full Stack Developer (AR Lead Application Developer, Core Development, Environment Designing, Scene Lighting)
  - o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D & WebGL, Blender.
  - o This is a Web-Based 3D application where the user can get the experience & functionalities like a physical branch of Bajaj Finserv
  - o We have created virtual tours of the offices also as part of the app
  - o **EXAMPLE REFERENCE:** Link

+ **WEB AR/VR:** Example Reference
  - o WORKED ON SEVERAL AUGMENTED REALITY CAMPAIGNS USING WEBXR WHERE U**SERS** DON'T NEED A**N** APP TO INSTALL, JUST BY A LINK USER CAN EXPERIENCE THE RICH AR/VR CONTENT.
  - o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D & WebGL, 8TH WALL WebAR, Three.js, AR.js, Zappworks
  - o **EXAMPLE REFERENCE:** Link

- **RICOH SOCIAL VR:**
  - **TEAM SIZE:** 6
  - **JOB ROLE**: VR Developer & Lighting Artist
  - **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, HTC Vive, Leap Motion Sensor, Photon Unity Networking
  - The Ricoh printers are widely used all over the world for large-scale printing. The printer is very huge that transportation just for a demo takes a lot of costs. Maintenance of the printer is also very expensive. It takes time for the salesperson and engineer to set it up for a demo. Thus, the idea behind the project was to reduce the cost, transportation, and maintenance of the printer
  - This is a VR solution built where you join as Sales or Customer into the virtual space and interact with the large printer using HTC Vive & Leap Motion Sensor
  - **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, OpenXR, HTC VIVE, Oculus Quest 2, Asset Bundles, Encryption Tools, PiXZY, Maya, Substance Painter
  - **EXAMPLE REFERENCE:** Link

- **RICOH AR:**
  - **TEAM SIZE:** 3
  - **JOB ROLE**: AR Developer
  - **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, AR kit (1.0)
  - The Ricoh printers are widely used all over the world for large-scale printing. The printer is very huge that transportation just for a demo takes a lot of costs. Maintenance of the printer is also very expensive. It takes time for salespeople and engineers to set it up for a demo. Thus, the idea behind the project was to reduce the cost, transportation, and maintenance of the printer
  - This is an AR solution built where you can scan your actual surface and place the printer (you can even check whether the printer fits into your room by using the Room Measure feature) to give the demo to the customer by showcasing all the functionalities of the large printer
  - **EXAMPLE REFERENCE:** Link

- **CXC AR PORTAL:**
  - **TEAM SIZE:** 1
  - **JOB ROLE**: Full Stack Developer (AR Lead Developer, Environment Designing, Scene Lighting)
  - **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, Unreal Engine, Vuforia Ground Plane (AR Core, AR Kit).
  - This application places a magic portal door in front of you from where you can enter an entirely different environment and interact with
  - **EXAMPLE REFERENCE: THIS** is currently available in Google Play Store (please check out the below link for the same)

CXC PORTAL: https://play.google.com/store/apps/details?id=com.hexaware.cxcportal

- **DELTA VR:**
  - **TEAM SIZE:** 3

- o **JOB ROLE**: Full Stack Developer (VR Developer, Environment Designing, Scene Lighting)
- o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, HTC Vive, Leap Motion Sensor.
- o This Solution is built for crew training for Delta Airlines using Unity 3D with HTC Vive
- O **EXAMPLE REFERENCE:** Link

+ **ARTVAN FURNITURE AR:**
  - o **TEAM SIZE:** 5
  - o **JOB ROLE**: Full Stack Developer (AR Developer, Environment Designing, Scene Lighting)
  - o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, Vuforia Ground Plane, AR CORE, AR Kit.
  - O The project is all about customizing the furniture with the different textures, measuring the furniture, and checking whether the furniture fits the Customer's room and fits the style of the room. This helps the customer to visualize the furniture before buying.
  - O **EXAMPLE REFERENCE:** Link

+ **CAR CUSTOMIZATION:**
  - o **TEAM SIZE:** 4
  - o **JOB ROLE**: Full Stack Developer (AR Developer, Environment Designing, Scene Lighting)
  - o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, Wikitude, ARKIT.
  - O The project is to plot the Car in AR and customization can be done by changing colors, Tire rims, and Seat style textures, and side reflections were achieved using ARKIT.
  - O **EXAMPLE REFERENCE:** Link

Below are a few more projects I have worked on in Hexaware Technologies:

+ X&O (Tic-tac-toe)
+ **HEUG AR BROCHURE & CAMPUS WALKTHROUGH**

+ **DRIVING SIMULATOR:**
  - o **TEAM SIZE:** 6
  - o **JOB ROLE**: Developer & Environment Designer
  - o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, Arduino integrated circuit
  - o Simulated the process of driving a car using the necessary hardware parts which give inputs to Unity3D through Arduino integrated circuit
  - o This application checks all the driving rules and best practices and provides feedback to the user at the end of the session
  - o We gamified the complete process to make it easy to use

- o Used Unity3D as software to develop and integrate car parts for hardware support (actual car clutch, brake, gear, and a display monitor as application front end
- o This application can be used to teach/ improve one's car driving skills
- o **EXAMPLE REFERENCE:** Link

+ **TRACTOR SIMULATOR:**
  - o **TEAM SIZE:** 4
  - o **JOB ROLE**: Developer & Environment Designer
  - o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, Arduino integrated circuit
  - o Simulated the process of driving tractor using the necessary hardware parts which give inputs to Unity3D through Arduino integrated circuit
  - o This application checks all the rules and best practices to drive a tractor and provides feedback to the user at the end of the session
  - o We gamified the complete process to make it easy to understand
  - o Used Unity3D as software to develop integrated tractor part for hardware support (actual tractor clutch, brake, gear, and a display monitor as application front end)
  - o This application can be used to teach/ improve one's tractor driving skills and basic troubleshooting of tractor
  - o **EXAMPLE REFERENCE:** Link

+ **AUTO QUOTE:**
  - o **TEAM SIZE:** 2
  - o **JOB ROLE**: AR Lead Developer
  - o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, Services for OCR & Insurance data, Vuforia for image capturing with focus mode.
  - o This is an insurance application where the user will take a snap of the vehicle (which includes the number plate of the vehicle) to get the insurance quote with a single click
  - o Used Unity3D as software to develop and OCR technology to recognize number plates and get the necessary details for the insurance quote

+ **IP CAM PORTAL (DR. STRANGE PORTAL):** Example Reference
  - o **TEAM SIZE:** 1
  - o **JOB ROLE**: Full Stack Developer (AR Developer, Environment Designing, Scene Lighting)
  - o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, Vuforia Ground, IP Camera for the video feed.
  - o This solution was plotting a Doctor Strange portal in front of you using Mid Air AR Object Placement which can render construction site IP camera (can access any IP camera which supports live streaming)
  - o **EXAMPLE REFERENCE:** Link

+ **VIRTUAL SHOPPING:** Example Reference
  - o **TEAM SIZE:** 3(UI Team, Application Developer)
  - o **JOB ROLE**: AR Developer, Core Development, 3D Object Creation.
  - o **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D & WebGL, Maya.

- This is a Web-Based 3D application where the user can get the experience & functionalities like a physical shopping mall for an eCommerce client.
- We created real virtual rooms where users can go through and buy the products, he/she want.
- **EXAMPLE REFERENCE:** Link

+ **AR SERVER CONTROLLER (DATA VISUALIZATION):**
  - **TEAM SIZE:** 3
  - **JOB ROLE**: Full Stack Developer (AR Lead Developer, Environment Designing, Scene Lighting)
  - **SOFTWARE AND HARDWARE TOOLS USED**: Unity3D, Wikitude (AR Core, AR Kit).
  - This solution was built for visualizing the internal management system servers located in various latitudes and longitude on an Augmented Globe where you can interact and access those servers
  - The Solution is built for HoloLens as well as Mobile
  - **EXAMPLE REFERENCE:** Link

EDUCATION

2014

KRISHNA UNIVERSITY, ANDHRA PRADESH, Bachelor of Sciences

+ Specialized in Computer Science, Mathematics, Statistics
+ Here only my footsteps started following my passion where I used to learn 3D tools and played a lot of 3D-based games and wanted to create too.

2021

INDIRA GANDHI NATIONAL OPEN UNIVERSITY, Master of Computer Applications

+ Currently pursuing my sixth semester of my masters from IGNOU (due to pandemic got delayed)

AWARDS

ON THE SPOT AWARD – Award for Excellence – Tata Consultancy Services
STAR OF THE MONTH - AWARD for Excellence – Tata Consultancy Services
IMS HACKATHON WINNER - Hexaware Technologies LTD
TECHGIG 2019 - NEW COMMERCE AR(LINK**) -** Won the content
BEST INNOVATIVE SOLUTION FOR THE VIRTUAL BRANCH– Bajaj Finserv

CERTIFICATIONS

ORACLE CERTIFIED PROFESSIONAL, JAVA PROGRAMMER
LOMA - ASSOCIATE, LIFE MANAGEMENT INSTITUTE (ALMI)

INNOVATION AND INFORMATION TECHNOLOGY MANAGEMENT BY IIMB(INPROGRESS)

LANGUAGES

ENGLISH
HINDI
TELUGU
KANADA
TAMIL

ACTIVITIES

I am an avid gamer and like to play team-based sports like cricket and badminton. I regularly work out and love exploring new places and spots.