
SUMMARY

I have about 4 years of experience in building cross-platform multiplayer application with enterprise standards and building visual SLAM systems for augmented reality. Enthusiastic about research and development for mixed reality application and working with latest technologies.

SKILLS

Languages: C#, C++, python, JS, MATLAB and CG.

Industry Knowledge: Virtual and Augmented Reality, Computer Graphics, Computer Vision, visual SLAM systems, Game Development and Computer Networking.

Tools/SDK/API: Unity3D, OpenCV, OpenVSLAM, ARCore, ARKit, Leap motion, Oculus, Vive, Vive SRanipal, Unity ECS, SFML, Photon Unity Netorking, Boost, Eigen, WebGL libigl, g2o, ceres, DBoW2, WebRTC, Kinect, Keras, nodeJS, Android Studio, FFMPEG, Mapbox, Git, Azure services

EDUCATION

University College London (UCL), London Sep'19-Sep'20
Master of Research (MRes) in Virtual Reality
CGPA – pursuing; expected distinction

Rajiv Gandhi Proudhyogiki Vishwavidyalaya, Bhopal Jul'12-Jun'16
Bachelor of Engineering in Information Technology
CGPA – 7.33/10

PROJECTS

- GNSS fused Visual SLAM Bundle Adjustment process for geo-referenced positioning for AR. [\[Project\]](#)
- Smart city mixed reality project: geo-referenced real-time cross-platform collaboration platform with features like - virtual guides, freehand drawing, voice conferencing, and loading runtime contents. [\[Demo\]](#)
- 3D Mesh alignment/registration using ICP point-to-point and point-to-plane methods. [\[Demo\]](#)
- WebGL rendering using Path tracing: physically corrected Phong shading with BRDF and Quasi-Monte Carlo approach using Halton sequence. [\[Demo\]](#)
- Mixed reality project for Escape room experience – using Vive Pro for VR, Leap Motion for hand tracking, VIVE trackers for props with room-scale mapping and haptic feedback. [\[Demo\]](#)

EXPERIENCE

Summer Research Intern Jun'20 – Aug'20
Research Centre on Interactive media, Smart systems and Emerging Technologies (RISE) LTD, Cyprus

- Worked on the development of a novel mixed reality-based collaboration platform supporting Augmented and Virtual Reality. The proof of concept is presented for the Centres' smart city project of iNicosia.
- Created interactive user experiences and researched on the integration of real-time data, such as - GIS and news feed.

Staff Engineer Sep'17 – Jun'19
Imagine Software Pvt. Ltd. Hyderabad

- Awarded as the best person in Technology for the year 2018.

- Lead the core product team with the architecture and development of the product “Assist” to the enterprise standards. The product is used by large enterprise clients such as – UTC, Ford, ABB, etc. (Assist is a cross-platform AR application for digital SOPs and remote collaboration).
- As a lead, I’ve R&D the core product features such as - improving live video streaming quality and bandwidth requirement, feature tracking on video stream, screen sharing etc. Created platform native libraries to render out document files (PDF and DOCX) at run time and android native plugins for detecting and controlling UVC compliant camera over OTG port.
- Lead for VR collaboration project with Shell PLC. Handled end-to-end management of the project between client and internal team, including – scope of work, setting milestone, agile development and delivery. Along with management, coordinated with petro-physicist and developed features, such as – processing CT-scanned images, fluid simulation, and plant safety maintenance.

Lead Software Imagineer

Nov’16-Aug’17

XR Labs Pvt. Ltd. Chennai

- Initiated the idea for a new product and created a proof of concept demo for marker-less tracking, annotations and virtual meeting space – for VR collaboration.
- Created an interactive app for real-time visualization of colours and patterns on a real-world wall surface. Used OpenCV for image segmentation and watershed algorithm to extract wall mask and Unity3D for visualization and integration of leap motion for user interaction. The application was deployed on the intel NUC unit and used in public stores.
- Developed an immersive VR-experience of endangered wildlife species for HTC VIVE using Unreal engine. The application was installed at Abu Dhabi Terminal 1 called virtual safari.
- Supervised and developed multiple AR/VR client projects ranging from training, safety and maintenance to the inspection of mechanical machinery. Creating experiences like – wind turbine guide, engine valve adjustment, servicing of tractor, showcasing electric scooter, etc. Worked with clients such as – Siemens, TATA, Bharat Benz, etc.

Game Programmer

Jan’16 – Nov’16

All in a days play Pvt. Ltd. Mumbai

- Developed several gaming applications, including VR wingsuit diving simulation and “Future Ride” which was selected among top 10 games at Pocket Gamer Connect, Bangalore 2016.

ACHIEVEMENTS AND HONORS

- Director of Hackathons as part of UCL Tech Society 2019-20.
 - Microsoft azure ninja cat badge in week of AI 2019. [\[Follow\]](#)
 - Delivered guest talk at UXIndia 2017 Bangalore on the following topic “Platform agnostic UX/UI for AR/VR application”. [\[Follow\]](#)
 - Given workshop on augmented reality (AR) application organised by Apple Developer group (ADG) at Vellore Institute of Technology (VIT), Chennai 2017. [\[Follow\]](#)
 - Qualified for ACM-ICPC Asia regional consecutively 3 years ranking under 200 and student member of ACM.
 - President of the RJITGEEK coding community under Codechef campus chapter (2015-16).
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