SHUBHAM SINGH

MRes Virtual Reality, UCL

London, United Kingdom

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Education

University College London (UCL)
Master of research in Virtual Reality
Computer Graphics; Acquisition and Processing of 3D geometry; Computational Photography; Virtual Environments;
CGPA – currently pursuing
Sep'19 – Sep'20 London, UK

Rajiv Gandhi Proudyogiki Vishwavidyalaya (RGPV)
Bachelor of Engineering- Information Technology (IT)
Data structure and algorithms; OOPS; Computer Networks; .Net; Computer Graphics; Web Tech; Cloud Computing; Artificial Intelligence;
CGPA – 7.33/10
Aug'12 – Jun'16 Bhopal, M.P.

Experience

Staff Engineer
Imaginate Software Labs pvt ltd |Sep'17 – Jun'19

- Awarded as best person in Technology for year 2018.
- Worked in a 3 members core team and was responsible for the architecture and development of "Assist" (AR based product), which is being used by clients such as – UTC, Ford, ABB and others. I was involved in R&D and development of core features such as – A/V conferencing, feature tracking and annotation on livestream, screen sharing etc.
- Lead for a VR collaboration project for a team of petro-scientists at Shell PLC. I was given the responsibility, for an end-to-end delivery of the 6 months long project, where I captured the requirements from clients, and coordinated with internal team of programmers, artists and management. I took care of the R&D and core features, such as - collaboration with CT-scanned rock samples, fluid simulation, plant explosion simulation and evacuation, and maintenance.
- Developed feature for recording 3D VR session, which records all actions, events, conversation (audio), and contents of the session. Extremely useful for the case of collaborative session which can be reviewed and replayed at later time.
- Written platform (Win & android) native libraries to render office documents (DOCX, XLSX & PDF) in VR at run-time.

Skills

Languages: C#, C++, python, CG, C, MATLAB.
Industry Knowledge: Computer Graphics, Computer Vision, Differential Geometry, Games, and Computer Networking.
Tools/SDK/API: Unity3D, OpenCV, libigl, ARCore, VR, AR, OpenGL, nodeJS, MS-Hololens, Leap motion, Kinect, Unity DOTS, Vive SRanipal, WebRTC, FFMPEG, PUN, Mapbox, Git, Jira, Azure, GCP, and NAS.
MOOC:

- Computer vision and Deep learning (Udemy)
- Computer vision and Image analysis (Microsoft)

Projects

- Smart city project: used VISLAM to reinforce GPS tracking for real-time cross-platform collaboration in mixed reality application. Other features include virtual guides, free hand drawing, voice conferencing, and loading runtime packages. [Demo]
- Mesh alignment using ICP point-to-point and point-to-plane. [Demo]
- Path tracing rendering: physically corrected Phong shading with BRDF and Quasi monte carlo approach of halton sequence. [Demo]
- Inverse kinematic with temporal and permanent constraints: Extended novel FABRIK implementation for solving IK for articulated bodies of varying length and implemented temporal constraint of angular velocity and permanent constraint of swing and twist for every joint. [Project]

Achievements

- Microsoft azure ninja cat @ week of AI 2019. [Follow]
- Delivered guest talk at UXIndia 2017 conference on the topic of "Platform agnostic UI/UX for AR/VR applications".
- Qualified for Asia regional of ACM ICPC IIT Kharagpur and IIT Kanpur in the year 2013 and 2014 resp.
- Selected among top 20 games at Pocket Gamer Connect Bangalore 2016

Extra-Curricular

- Director of Hackathon as part of UCL Tech Society
- President and co-founder of RJITGEEK coding community (2014-16).
- Conducted multiple workshop and coding session at college level. [Follow]