Pulkit Juneja

Developer | Computer graphics Enthusiast

Professional Skills

Strength and interests

- Mobile Applications
- Game Development
- Augmented/Virtual Reality
- Real time 3D graphics
- Ray Tracing
- Backend System design and development

Libraries/Platforms

• **Game Development and graphics**: Unity3D, OpenGL, Three.js, Pixi.js, Monogame, Blender3D, GLSL, ArKit/Arcore, SFML
• **Application Development**: React native (Android and IOS), Native android Java, React Js,
• **Backend System Development**: Node.js , Hapi.js, Express.Js, Java spring, Docker, AWS, Apache Kafka

Programming Languages

- C/C++
- C#
- JavaScript
- Java
- Python
- SQL

Contact

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Work Experience

Mckinsey Digital Labs — AUG 2017 – PRESENT

Junior Digital Analyst (SE - I)

Full Stack Developer: Develops and delivers high-quality projects on time with an expertise in

- Mobile Applications
- API Design
- Augmented/Virtual reality
- DevOps and Infrastructure

Mckinsey Digital Labs — JAN 2017 – AUG 2017

SE Intern

Worked on configuring and deploying a third-party API gateway and developer portal over the proprietary Mckinsey API solution allowing better third-party developer integration and a secure layer over the API
Improved user experience for a proprietary Mckinsey solutions by developing a Chatbot using AWS Lex to simplify site navigation and usage, providing instantaneous replies to any user queries and adapting based on user feedback

Zed Interactive — DEC 2017 – JAN 2017

Unity3D developer Intern

Created a POC of a server to automate the process of creating a textured mesh of an object from its video Recording using photogrammetry. The structure from motion technique was used for generating the point cloud while surface reconstruction was done using Mesh lab.

Telenor india — JUN 2017 – JUL 2017

SDE Intern

Worked as a part of the software development team in Telenor Gurgaon deputed by Wipro during the summer of 2016 leading the SD team for Telenor salesforce android application

Publications

Context Aware Clustering using GloVe and K-Means — IJSEA

Developed and algorithm to cluster datasets contextually based on contextual similarity in their textual fields. The algorithm combines GloVe word embedding with the K-means clustering algorithm and averages the similarity between multiple corresponding textual attributes (if present) during comparison.

JUL-2017
International journal of software engineering and applications

Projects

RTS War Simulation

Currently working on the development of a Real-Time War simulation for a client being made for the purpose of personnel training and education.

T**ech Stack:** Unity and Node.js

Role: Full Stack Developer - Feature development, Architecture Design

EVA - Emotion Driven Virtual Agent

Eva is a blender based "Talking head" system. It is an expressive speech-driven facial animation system that is capable of portraying various emotions such as sadness, happiness, anger etc. during its conversations. It was built with the aim of creating a virtual 3D face interface to any existing Chatbot with minor extensions to the code of the Chabot.

T**ech Stack:** Blender, Python

Link: https://github.com/pulkitjuneja/EVA-Emotion-Driven-Virtual-Agent

Rays

A Ray tracing engine written in C++ using a recursive Monte carlo Raytracing algorithm. The engine supports both refractive and reflective surfaces, the Fresnel Effect.

Tech Stack: C++

Link: https://github.com/pulkitjuneja/Rays

InsightVR

InsightVR is a gaze based analytics tool that puts the user in a VR environment and then collects data about where the user focused more during the simulation thereby giving insights on what the user found interesting/peculiar in the scene. it was developed for a hack-a-thon within McKinsey, winning us the hack-a-thon. It has many applications such as deciding the optimal position for ad placement in an area or to a designer, who can get insights about his design from the user.

Tech Stack: Unity, C#, Google VR SDK

Link: https://github.com/pulkitjuneja/Rays

Magnetic

A 2d Arcade game where you control a magnet falling down a drain full of objects that will attract (or repel) you. your goal is to fall as far as you can without getting stuck

Tech Stack: Unity, C#,

Link: https://play.google.com/apps/testing/com.pipedreams.Magnetic

Rays Caster

A lightweight reusable Pseudo 3D rendering engine written in JavaScript. Supports rendering sprites, sprite Z-order resolution, collision detection as well as vertical camera movement. The motivation for this project was to create a renderer that could replicate the retro effects as seen in games

Tech Stack: Javascript, Pixi.Js,

Link: https://github.com/pulkitjuneja/Rays-Caster

VIT-Academics

An application that allows students of VIT University to check and monitor their time table, marks, attendance, and grades. The application currently has over 10,000 users. I worked on designing the overall architecture of the application as well as on the android app and the node backend.

Tech Stack: Android Java, node.Js

Link: https://play.google.com/store/apps/details?id=org.collegecode.vitacademics

Flag-A-Spot

Developed the android app for a SOS system allowing users to make emergency contacts, seamlessly report malfeasances in their vicinity and also discern the susceptibility of a particular crime in an area.

Tech Stack: Android Java, node.Js

Link: https://play.google.com/store/apps/details?id=com.flagaspot.flagger

Self Service Teleco App

A self-service customer-facing application for a leading Teleco on Thailand. The app was built to enhance user experience and enhance performance over the existing solution

T**ech Stack:** React Native and Node.Js with Hapi framework

Role: Full Stack Developer - Feature development, Architecture Design

Education

Vellore Institute of technology

JUL 2013 - MAY 2017

Hackathons and Conferences

- **4TH -** Angel Hack Delhi 2016, Implemented a business card sharing app allowing people to communicate without using physical business cards at networking events.
- **Top 5 -** WeHack VIT 2015, Developed a tool for automated geospatial surveying for finding the optimal path for laying down telephone lines
- **1st -** Mckinsey Digital Labs Internal Hackathon **-** developed a Gaze-based analytics tool that puts the user in a VR environment and then collects data about where the user focused more during the simulation
- Technical Mentor for computer society of India (VIT Chapter) (http://csivit.com)
- Microsoft student partner (2014-2015)
- Android Developer at College Code (https://github.com/CollegeCODE)