SUDHA MANIGUNDAM RAGHAVAN

+1 (646) 578 9492 📞
sudhamr8@gmail.com ✉
www.sudhamr.com 🌐

Software Engineer seeking internship or full-time opportunities starting May 2019

EDUCATION

Master of Entertainment Technology | *Carnegie Mellon University, Entertainment Technology Center, Redwood City, CA* (May 2019)
Relevant Courses: Building Virtual Worlds, Visual Story, Introduction to AI in Unreal Engine, Experimental Game Design, Production and Leadership

Bachelor in Engineering, Computer Science and Engineering | *SSN College of Engineering, Anna University, India*   (May 2017)
Relevant Courses: Computer Graphics, Data Structures and Algorithms (C++), Operating Systems, Software Engineering

SKILLS

Languages: C#, C, C++, SQL, Java   Web: HTML, CSS, JavaScript   Platform: Windows, Linux
Tools: Unity, Unreal Engine, Photoshop, Maya, Android Studio, Perforce, Git, Microsoft Office

ACADEMIC PROJECTS

TheatAR | CMU - ETC | Pitch Project | Lead Programmer   (Fall 2018)
- Designed a pipeline for a live-performance experience on Microsoft Hololens with an interdisciplinary team of 6 that augments virtual characters enabling interactions between the live actor and the AR content.
- Networked multiple HoloLenses to run the experience simultaneously, added controls that allow cueing of the performance.
- Explored design challenges like occlusion, lighting, persistence and shared user experiences in AR for live immersive theater.

NeuroAct | CMU - ETC | NDA | Programmer   (Spring 2018)
- Created multiple experiences and games through rapid prototyping for a neural-interface EMG arm-band device using Unity3D, Kinect, JavaScript and CAVE with a team of 6.
- Designed experiences using the device SDK that uses a supervised Machine Learning model.
- Responsibilities included troubleshooting the arm-band for network and usability issues, providing feedback and documentation for the API. Collaborated with the team to solve issues related to UI/UX for applications created using the device.

Table Tennis VR Simulation Using Hand Tracking through Mobile Device Camera   (Spring 2017)
- Undergraduate thesis project - simulation of table tennis game in Daydream, controlled through hand tracking from mobile camera.
- Worked with a team of 3 and used an OpenCV C# Wrapper for Unity, performed object tracking through color and edge detection algorithms deployed as a background Android service.

PROFESSIONAL EXPERIENCE

AR/VR Intern | Blue Sky Studios (20th Century Fox), Greenwich, CT   (June 2018 - August 2018)
- Worked with the creators of movies like Ice Age, Rio's Stereo/VR team to research and create prototypes for Augmented Reality apps with ARCore, Unreal Engine with Blueprints, and virtual art creation tools like Tiltbrush, Quill and Medium on Oculus Rift.
- Explored the various features of ARCore and implemented them for studio related mobile applications. Worked extensively on material editors, particle effect creation and AR design.

Application Developer Intern | BuildSkills (iMorph Inc.), Chennai, India   (March 2015 - September 2015)
- Developed educational games and mobile apps using Corona SDK with Lua and Unity, web-app using Django. Conducted workshops for students to learn programming using MIT Scratch.
- Iterated UI and Visual Design for multiple apps to suit the needs of the audience for each app.

PERSONAL PROJECTS

Introduction to AI in Unreal Engine| Independent Study   (Spring 2018)
- Studied creation of AI in Unreal Engine, focusing on Behaviour Trees and Blueprints. Implemented a third person playable level with AI demonstrating various types of behaviours.
- Learned level blocking, material editing, animation systems and HUDs in Unreal.

Togo: A Trail of Mercy | CMU - Department of Drama   *Role: Programmer   Duration: 2 Weeks*   (Fall 2017)
- Developed a full-fledged theme park VR experience complete with an automated ride on Oculus Rift. Created and integrated water splash and ice floor cracking from Maya to Unity.
- Optimized Unity scenes involving massive terrains, shaders and particle effects.

Learn American Sign Language in VR   *Role: Programmer, Artist   Duration: 3 Months* (Spring 2016)
- Pitch project sponsored by SSN College of Engineering, Developed a VR enabled Google Cardboard app to learn and practice American Sign Language in VR with Leap Motion Controller. Published a report on Natural User Interfaces in Virtual Reality.