

NAGARAJ RAPARTHI

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EDUCATION

TEXAS A&M UNIVERSITY

MASTERS IN COMPUTER GRAPHICS

August 2018 - August 2020

ASIAN INSTITUTE OF DESIGN

DIPLOMA IN 3D GAME ART

May 2015 - May 2016

SICET

BACHELORS IN COMPUTER SCIENCE

June 2011 - April 2015

SKILLS

PROGRAMMING

C++ | Python | OpenGL

Maya API plugin development

Unreal Engine shader, plugin and blueprint development

Development with Microsoft Visual Studio

Shader Development

Modeling | Sculpting | Texturing

Lighting | Rendering

TOOLS

Maya | Zbrush | Max

Unreal Engine | Unity 3D

Microsoft Visual Studio

Perforce | Git

Nuke

COURSEWORK

GRADUATE

Physically Based Modeling

Image Synthesis

Computer Graphics

Advanced Computer Animation

VR Game Development

Computational Photography

ACHIEVEMENTS

FILM CREDITS

The Justice League

Ghost In The Shell

Ad Astra

The Predator

OTHER FILMS

Murder On The Orient Express

Detective Pikachu

The New Mutants

Maleficent: Mistress of Evil

EXPERIENCE

APIRA TECHNOLOGIES | UNREAL TECHNICAL ARTIST

April 2022 – Present

- Played an integral role within a stealth startup team dedicated to the design, construction, and ongoing maintenance of code for real-time rendering of avatars and scenes in the Metaverse, leveraging Unreal Engine.
- Orchestrated remarkable enhancements in rendering quality and efficiency, optimizing real-time performance. Pioneered professional rendering methods, including modular real-time advanced lighting and scenes. Innovated by adapting our system, originally tailored for custom avatars, to seamlessly integrate Metahumans and Unreal Engine 5.2. Spearheaded the technical transition, ensuring compatibility, optimizing performance and pioneering research for artist-friendly tools enabling real-time facial expression tuning.
- Flourished within a tight-knit team of 6, adroitly wearing multiple hats as artist and developer. Adaptable and eager to learn, consistently delivered while contributing significantly to team success.

VAL G. HEMMING SIMULATION CENTER | GRAPHICS ENGINEER

May 2020 – April 2022

- Engineered display, image processing, and computer vision algorithms for the Wide Area Virtual Environment, advancing medical simulation research.
- Enhanced Motion Matching algorithm by devising comprehensive test strategies aligned with industry standards, leading to improved functionality and security. Achieved a remarkable 95% reduction in computation time by implementing parallel GPU threading within Unreal Engine.

MOVING PICTURE COMPANY (MPC) | 3D MODELING ARTIST

June 2016 – July 2018

- Contributed to high-profile Hollywood film productions, adeptly crafting intricate props and characters using advanced high-poly 3D modeling and sculpting techniques.
- Translated creative 3D PreViz, reference, and concept art into production-quality models for prominent films like The Justice League, The Predator, and Detective Pikachu, uniting technical and artistic strengths for seamless collaboration.

PROJECTS

GPU-BASED MOTION MATCHING FOR CROWDS IN THE UNREAL ENGINE | SIIGRAPH ASIA 2020

C++, Unreal Engine

- Implemented a technique that computes the calculations for the motion matching algorithm every frame in real time in parallel using GPU threads which improved its efficiency and allowed for large crowd simulations.

LARGE SCALE PROJECTOR ALIGNMENT FOR THE WIDE AREA VIRTUAL ENVIRONMENT | WAVE

C++

- A scalable image warping method developed to automate projector alignment for the 48 projector alignment setup inside the WAVE. The multi-threaded and distributed approach makes very frequent alignments possible via a tablet and inexpensive webcams.