Punit Kunjam

pkunjam1@jhu.edu | (+91) 8817968006 | India | pkunjam.github.io | linkedin.com/in/pkunjam

EDUCATION

International Institute of Information Technology (IIIT), Naya Raipur, Chhattisgarh Aug. 2017 – Aug. 2021
B.Tech. in Computer Science and Engineering (129 credits)

WORK EXPERIENCE

Johns Hopkins University, Baltimore, Maryland
Research Intern, Laboratory for Computational Sensing and Robotics Jan. 2021 – June 2021
Surgical Procedures (Principal Investigator: Prof. Mathias Unberath, Assistant Professor)

- Developed virtual drilling simulator for mastoidectomy surgeries
- Worked on CHAI3D framework for developing haptic applications
- Programmed OpenGL in C++

Massachusetts Institute of Technology (MIT), Cambridge, MA
Research Intern, MIT Media Lab Aug. 2020 – Jan. 2021
Pockets (Principal Investigator: Mr. Aubrey Simonson, Graduate Research Assistant)

- Designed and developed a system for storing items and carrying menu tools in VR
- Built a paint application in VR using unity 3D
- Wrote scripts in C# programming language

University of Canterbury, Christchurch, New Zealand
Research Intern, Human Interface Technology Lab June 2020 – Dec. 2020
Collision Avoidance System in Virtual Reality (Principal Investigator: Dr. Adrian Clark, Senior Lecturer)

- Developed a system to avoid collisions between VR and non-VR users in the virtual environment
- Used computer vision techniques for pose estimation
- Worked with unity3D and scripted in C#

Johns Hopkins University, Baltimore, Maryland
Visiting Research Intern [Cancelled], Sensing, Manipulation, and Real-Time Systems Lab May 2020
Surgical Procedures in Augmented Reality (Principal Investigator: Prof. Peter Kazanzides, Research Professor)

- Was supposed to work on an Augmented Reality Head-Mounted Display research "ARssist"

Mimyk Medical Simulation, Bangalore, Karnataka
Intern, Indian Institute of Science Bangalore June 2019 – July 2019
Medical Simulation Technologies (Principal Investigator: Dr. Nithin Shivashankar, Co-Founder)

- Developed 3D interactive training modules for the virtual reality simulator using unity 3D
- Programmed in C# programming language, learned basics of computer graphics
- Worked with HTC Vive Virtual Reality system

WOWEXP Technologies Pvt. Ltd., Bangalore, Karnataka
Intern, WeWork, Bangalore May 2019 – June 2019
Retail entertainment platforms (Principal Investigator: Mr. Navin Manaswi, Founder & CEO)

- Developed 3D contents using unity 3D for the company's website
- Worked with the pcon planner and babylon.js
- Learned how a startup works in its initial stage

StareIn Digital Pvt. Ltd., Hyderabad, Telangana
Game Development Intern Jan. 2019 – March 2019
Hyper-casual games (Principal Investigator: Mr. Vamsi Raju, Co-Founder)

- Developed the prototype for a game using the unity3D game engine
- Learned to develop games for the android platform
- Programmed in C# to implement gameplay mechanics

PUBLICATIONS

- Munawar, A., Li, Z., **Kunjam, P.**, Nagururu, N., Ding, A., Looi Hospital, T., Creighton, F., Kazanzides, P., Taylor, R. & Unberath, M., 2021. "Virtual Reality for Synergistic Surgical Training and Data Generation," *AE-CAI Joint MICCAI Workshop 2021*.
  Outstanding Paper Award

- Simonson, A., **Kunjam, P.**, & Maes, P., 2021. "Pockets: User-Assigned Menus Based on Physical Buttons for Virtual Environments," *ACM SIGGRAPH 2021 Posters*

VOLUNTEER EXPERIENCE

TSoC (The Society of Coders), IIIT Naya Raipur, Chhattisgarh
Game Development and AR/VR Lead July 2018 – August 2021

- Conducted workshops for unity3D
- Delivered lectures on AR/VR and game development

Technovate (Technical and Cultural Fest), IIIT Naya Raipur, Chhattisgarh
Event Head March 2018

- Conducted a LAN gaming tournament on Technovate 2018 at IIIT NR

PERSONAL PROJECTS

Tower of Hanoi Oct. 2020 – Nov. 2020

- Built an immersive learning experience that teaches the logic of the Tower of Hanoi
- Developed a 3D open-world like game from scratch using unity3D
- Wrote scripts in C# programming language

Proxy Interpreter: A Wearable System to build a just society Sep. 2020 – present

- Using NLP & AR to develop a wearable system for hearing-impaired communities
- Potential use of Nreal Light/Nimo Planet AR glasses to integrate AR experience
- Using IBM Watson for speech recognition and other cloud operations
- Developing a user-friendly application using unity3D

AI Assistant JARVIS May 2020 – June 2020

- Created a simulation using unity game engine
- Added a chatbot feature using IBM Watson SDK for unity
- Used Google ARCore SDK to build AR experience in android platform

VR based FPS Game – "Shooter's Rampage" Aug. 2019 – Oct. 2019

- Worked on unity game engine and Google VR SDK to modify the game
- Learned about the working of cardboard VR
- Designed different levels of the game
- Programmed for gameplay and audio modules

Imitation Learning in Unity Jan. 2019 – April 2019

- Used "ML-Agents" toolkit for the training process
- Wrote scripts for the training of the model
- Modified some level designs of the game
- Learned about the working and basic concepts of Imitation Learning

INTERESTS AND ACHIEVEMENTS

- Played national level chess tournaments in high school
- Won several competitive gaming tournaments
- Got selected for the Game Oasis Hackathon 2019 (one of the world's largest global gaming hackathon) co-hosted with Binance Labs, Cocos-BCX, Contentos, Harmony, and Matic Network

SKILLS

- **Programming Language:** C#, C++, Basic Python
- **Tools/Frameworks:** Unity 3D, CHAI3D, Visual Studio, Git, GitHub
- **Industrial:** Data Structures and Algorithms, Game Development

REFERENCES

- Prof. Mathias Unberath
  Assistant Professor, Department of Computer Science, Johns Hopkins University
  Email: unberath@jhu.edu
  Website: https://www.cs.jhu.edu/faculty/mathias-unberath/

- Dr. Adrian Clark
  Senior Lecturer, Applied Immersive Game Design in the School of Product Design, University of Canterbury
  Email: adrian.clark@canterbury.ac.nz
  Website: https://researchprofile.canterbury.ac.nz/Researcher.aspx?Researcherid=4046471

Additional references are available upon request.