PRASANNA KUMAR

XR Developer

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SUMMARY

B.Tech (ECE) and UK MSc Virtual Reality graduate specialising in VR/AR development in Unity (C#). Experienced integrating Arduino, Raspberry Pi, motion tracking, and physiological sensors into real-time Unity pipelines for interactive, data-driven experiences. Strong in XR fundamentals including interaction systems, spatial UI, input handling, debugging/profiling, and performance optimisation. Rapid prototyper who writes clean, maintainable code and collaborates effectively using Git. Currently developing AI-enabled XR features for adaptive behaviour and personalisation using sensor and interaction data.

TECHNICAL SKILLS

- C# , C++
- Unity
- Git/GitHub
- Real-time signal processing
- MATLAB
- VR/AR/MR
- Davinci Resolve
- Blender

PROJECTS & RESEARCH

VR Rehabilitation Cycling Prototype (Swansea University, 2025)

- Developed Unity-based VR hand-cycle simulation with Arduino sensor integration to track RPM and physiological data, and implemented heart rate feedback loop using Polar H10 sensor for adaptive rehabilitation intensity.

Festo Machine AR — Industrial Maintenance Assistant (Swansea University, 2025)

- Built an AR workflow assistant in Unity for a Festo training/production machine: step-by-step overlays, part highlights, and animated procedures for setup, calibration, and routine checks.

Performance Analysis of Multi-Relay FSO Communication for Medical Applications (Hybrid Optical Amplifiers) **(KRCT, Oct 2020 - Apr 2021)**

- Modeled and simulated multi-relay FSO links for hospital networks, assessing hybrid optical amplifiers (EDFA+Raman/SOA) under turbulence and misalignment to improve OSNR/BER and reduce outage.

EDUCATION

MSc in Virtual Reality **Sep 2024 - Sep 2025**

Swansea University

- Thesis on "Immersive Virtual Reality Cycling for Rehabilitation with Integrated Physiological Feedback".

Bachelor of Electronics and Communication Engineering **June 2017 - May 2021**

k ramakrishnan college of technology

- Thesis on “Performance analysis of multirelay FSO communication for medical application using hybrid optical amplifiers”

ADDITIONAL INFORMATION

- **Languages:** English, Tamil, Hindi.
- **ShowReels:** https://www.youtube.com/@SanasVR/videos