

# Nithish Reddy Bhoomannagari

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## EDUCATION

- Oregon State University** Corvallis, OR  
*Master of Science in Computer Science, GPA: 3.7* September 2023 - December 2025
  - Coursework: Virtual Reality, Computer Graphics & Shaders, Human-Computer Interaction, ML, Algorithms

## SKILLS

**Programming Languages & Tools:** Modern C++, Python, C#, MATLAB, Git, Docker, Visual Studio  
**XR Development:** Unity 3D, Meta XR SDK, Unreal Engine, OpenXR, Performance Optimization  
**Cloud & DevOps:** Azure Data Factory, Azure DevOps, Azure Data Lake Storage, Azure Key Vault, CI/CD Pipelines  
**Graphics & Optimization:** GLSL/HLSL Shaders, Async loading, GPU Instancing, Unity profiling tools

## PROFESSIONAL EXPERIENCE

- Graduate Research Assistant | XR Developer | Oregon State University** December 2023 - April 2025  
*Unity 3D, Meta XR SDK, Open XR, GLSL Shaders, C#, Performance Optimization, CI/CD* Corvallis, OR
  - Led team of 3 developers to build a multiplatform VR data visualization system for network analysis using Unity XR SDK, Dockerized deployment pipelines, and Agile sprints
  - Achieved **267% rendering performance improvement** via GPU instancing, custom GLSL shaders, async loading for 10K+ node datasets
  - Designed and conducted **human-subject study (n=16)** comparing VR vs.desktop using NASA-TLX, SUS, UEQ
- Technical Product Manager | XR/AR Products | ClinkLabs** December 2024 - June 2025  
*Snapdragon AR2 Gen 1, SDK Integration, Hardware-Software Bridge* Remote
  - Led **XR product development** lifecycle with ODMs and platform vendors for Snapdragon AR2 Gen 1 devices
  - Coordinated ODM and firmware teams to accelerate SDK access and establish platform testing protocols
  - Conducted **technical feasibility assessments** for AR waveguide displays and firmware integration
- Systems Engineer | Tata Consultancy Services** November 2020 - August 2023  
*Unity 3D, C#, Azure Data Factory, REST APIs, Python, SQL Server* Hyderabad, India
  - Developed Unity-based 3D visualization interfaces with real-time data integration for complex business datasets
  - Automated ETL pipelines, achieving **40% reduction in deployment errors** through CI/CD in Azure
  - Developed **interactive dashboards** using PostgreSQL/SQL Server, integrating multiple data sources for analytics

## INDUSTRY EXPERIENCE

- XR Technology Demonstrator | CES 2025** January 2025  
*AR Smart Glasses, Hardware Evaluation* Las Vegas, NV
  - Demonstrated **AR smart glasses prototypes** to 25+ industry professionals for accessibility applications
  - Evaluated **Snapdragon AR2 Gen 1 architecture** and SDK capabilities across consumer XR segments
  - Assessed on-device AI features for **next-gen XR applications**

## PROJECTS

- VR Campus Simulation | Unreal Engine, Cesium VR Plugin, Custom VR Pawn, C++**
  - Built immersive VR campus experience using Cesium VR plugin for accurate **geospatial data integration**
  - Implemented **custom VR pawn** with fly and snap turn navigation mechanics optimized for Quest controllers
  - Developed custom navigation system and interactive elements using Unreal's VR framework
- Voice-Controlled Graph Explorer | Unity 3D, Meta XR SDK, Wit.ai, NLP**
  - Created **voice-enabled graph explorer** reducing task completion time by 40%
  - Integrated Wit.ai speech recognition with custom NLP processing for intuitive voice-based graph manipulation
- NaVision: AR Navigation System | Mentra Live Smart Glasses, Unity 3D, Sentis, YOLOv8, OpenXR, C#**
  - Built accessibility-focused AR system translating vision into **spatial audio cues**, enabling indoor navigation with 85%+ precision across 12+ object classes
  - Implemented Unity Sentis ML pipeline with YOLOv8 achieving 2-3 FPS inference while maintaining 72+ FPS passthrough rendering on Quest 3
  - Developed modular architecture with **interface-driven providers** (camera, audio, voice) for cross-platform deployment to Quest 3 and Mentra Live smart glasses