

VARAD PARADKAR

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Education

University of North Carolina at Charlotte, Charlotte, NC <i>Master of Science in Computer Science</i>	May 2026
Savitribai Phule Pune University, Pune, India <i>Bachelor of Engineering in Computer Engineering</i>	June 2022

Technical Skills

- **Languages:** Python, C#, C++, Java, JavaScript (React, Node, Express), GLSL, Kotlin
- **Frameworks & Tools:** PyTorch, Unity3D, Unreal Engine, WebGL, PostgreSQL, MongoDB, React, Docker, Git
- **Machine Learning:** Deep Learning, CNNs, GNNs, VAEs, GANs, NeRF, 3D Gaussian Splatting, Transformers

Research

Graphic-driven Human Activity Recognition using mmWave Radar Technologies: PyTorch, SMPL-X, NeRF, 3DGS, GANs	<i>Advisor: Dr. Hongfei Xue</i>
<ul style="list-style-type: none">• Developed a 3D Gaussian Splatting pipeline with SMPL-X to synthesize mmWave radar datasets.• Built a physics-based Gaussian Splatting modeling multipath effects, achieving 92% correlation with radar signals.• Optimized NeRF with occupancy grid pruning, accelerating training by 65% and enabling 3.8× faster inference than prior SOTA methods.	

Experience

Data Engineer — Montezuma AI <i>PCMC Smart City Data Intelligence System</i> Technologies: Python, PostgreSQL, Power BI, Tableau, Node.js, Apache Airflow, REST APIs, React	August 2023 – May 2024
<ul style="list-style-type: none">• Designed scalable ETL pipelines to process 10TB+ of municipal data, ensuring GDPR compliance.• Automated data enrichment with REST APIs, reducing preprocessing by 40% and accelerating analytics workflow.• Built interactive dashboards increasing stakeholder engagement by 80% and enabling data-driven urban planning.	
Software Development Lead — Jnana Prabodhini <i>Projects: Aranya (AR Forest Simulation), Chemistry VR (Educational Lab)</i> Technologies: Unity3D, C#, Git, ARCore, Jira, Google Play Console, Trello, Blender	June 2022 – December 2022
<ul style="list-style-type: none">• Led development of two AR/VR educational apps, delivering both ahead of schedule through agile sprint planning and iterative prototyping.• Architected dynamic terrain rendering and interactive AR object tracking with ARCore, optimizing shaders for 60 FPS on mid-tier Android devices.	
Software Development Intern — Jnana Prabodhini <i>Projects: Megh (AR Weather Education), Sarita (River Ecosystem Simulation)</i> Technologies: Unity3D, C#, Git, AR Foundation, OpenGL, Photoshop	January 2019 – June 2022
<ul style="list-style-type: none">• Developed two AR educational apps (<i>Megh</i>, <i>Sarita</i>) with 50K+ downloads and a 4.5/5 rating.• Optimized AR tracking and sprite-based ecosystems, improving accuracy by 95% and performance by 40%.• Published research on <i>Megh</i> and <i>Sarita</i> in IJARST: "<i>Megh and Sarita – Educational App Development</i>".	

Projects

PCMC Smart City Data Intelligence System — Montezuma AI	August 2023 – May 2024
<ul style="list-style-type: none">• Designed PostgreSQL databases and Python/Airflow ETL pipelines for 10TB+ municipal data, ensuring GDPR compliance.• Built anomaly detection (Splunk, SQL) and automated REST API enrichment, cutting preprocessing by 40% and traffic by 15%.	
Aranya — Jnana Prabodhini, Pune	June 2022 – January 2023
<ul style="list-style-type: none">• Led Unity3D AR game development, optimizing assets and maintaining 60 FPS for an immersive forest simulation.• Integrated fauna behavior and interactive mechanics, enhancing STEM learning for middle school students.	
Chemistry VR — Jnana Prabodhini, Pune	June 2022 – January 2023
<ul style="list-style-type: none">• Developed VR-based chemistry simulations in Unity3D, optimizing for Oculus with realistic interactions.• Delivered early using agile sprints, refining physics-based reactions for interactive learning.	