

# Nickhil Niranjana

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## Education

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**University of Pittsburgh, BS, GPA: 3.796 / 4.00**

Expected May 2026

Major in Computer Science

Pittsburgh, Pennsylvania

Major in Digital Narrative and Interactive Design

- **Coursework:** Algorithms and Data Structures 1 & 2, Formal Methods in Computing, Discrete Structures, Systems Software, Assembly, Human-Centered Systems, Software Engineering, Operating Systems, Narrative & Technology

## Experience

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**University of Pittsburgh, Virtual Reality (VR) Study**

May 2024 – Present

Research Assistant

Pittsburgh, Pennsylvania

- Work in development for a research study conducted by Dr. Dimitriy Babichenko and PHD student Pat Healy.
- Worked with others on player traversal in VR using Unity and C# in preparation for a human-computer interaction study evaluating user experience of different age demographics with 4 movement modalities.
- Constructed an On-Rails movement system in virtual reality that allowed the user to move along a set of rails by designing a program that incorporated Unity's Curvy Spline package.
- Implemented a tracking display interface for players to maintain instruction history and provide future choices.
- Enabled other developers to play-test their movement systems by designing an environment composed of test-cases through the use of Unity's ProBuilder package.
- Program climbing ability for the player in first-person and VR modalities via AutoHand.

**Turnkey Learning**

Jul – Aug 2023

Software Development Intern

Hyderabad, India (Remote work)

- Assisted in the front-end development of a healthcare portal focused on recording adverse effects of medicine.
- Improved efficiency among healthcare professionals by 30% by simplifying the process in which data is recorded and accessed through the use of React.js and React Bootstrap to implement UI coded in JavaScript, HTML, and CSS.
- Collaborated with development team by using Figma and Jira to ensure ease of access for medical employees.

## Projects

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**Three Little Pigs: RELOADED**

Oct 2024 - Present

- Developed a 2D bullet-hell spin on the "Three Little Pigs" featuring the wolf as the player character.
- Designed and implemented a unique bullet pattern for each enemy pig via Unity's Quaternion class and C#.
- Add a secondary attack to each enemy pig and redesign level layouts to ensure player is not constantly overwhelmed by projectiles.

**Copyright Strike**

Oct 2024

- Designed a 2D top-down hack-and-slash game in Unity about public domain and fighting against copyright abuse.
- Simulated combat by adding multiple enemy responses to player movement and implementing player's attack in C#.

**Grandpa is Gone**

Oct 2023

- Developed a 2D platformer game in Unity centered around coming to terms with the loss of a loved one.
- Programmed custom controls and player abilities via C# and implemented obstacles in Unity to encourage the player to fully utilize the game's mechanics.
- Received award for **Best Narrative Design** during the Games4SocialImpact game jam.

## Technical Skills

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**Languages:** Java, C#, C, Python, JavaScript, C++

**Tools:** Unity, GitHub, Git, Figma, CSS, HTML, React.js, Pandas, Matplotlib, Twine, React Bootstrap, Jira