# Omar Khan

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## About Me

I am an undergraduate student in Computer Science at the University of Calgary. Since January 2023, I am a research assistant with Dr. Kangsoo Kim at the Human-X-Interaction Lab. My research interests are Virtual Reality, Augmented Reality, Avatars and Agents, and Human-Computer Interaction. I expect to graduate in Spring 2025.

## Education

*09/2021 – 04/2025* **University of Calgary**
Bachelor of Science (Honours) – Computer Science
GPA: 3.82 / 4.00
Higher level courses in Computer Graphics and Human-Computer Interaction

## Publications

1. **Omar Khan**, Anh Nguyen, Michael Francis, Kangsoo Kim. “Exploring the Impact of Virtual Human and Symbol-Based Guide Cues in Immersive VR on Real-World Navigation Experience”. *2024 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)*, Orlando, FL, USA, 2024, pp. 883-884 https://www.doi.org/10.1109/VRW62533.2024.00238

## Research Assistantships

*09/2024 – 04/2025* **Serious XR Lab** and **Human-X-Interaction Lab**, University of Calgary
Supervisors: **Dr. Frank Maurer** and **Dr. Kangsoo Kim**
Ongoing 8-month honours research project on cross-cultural perspective-taking in VR.

*04/2024 – 08/2024* **Human-X-Interaction Lab**, University of Calgary
Supervisor: **Dr. Kangsoo Kim**
Investigating the impact of the congruence of avatar appearance (human vs gorilla) and locomotion (human-like vs gorilla-like) on user experience and avatar identification in VR. Developed a program, ran a user study, analyzed data and wrote a paper (publication pending).

*01/2023 – 08/2023* **Human-X-Interaction Lab**, University of Calgary
Supervisor: **Dr. Kangsoo Kim**
Exploring how various embodied guide cues in virtual reality can improve route-learning in the real world. Developed a virtual human guide and a symbol-based guide and integrated them into a 3D digital replica of a real-world building. Conducted a user study and published results as a poster at IEEE VR 2024.

## Awards

*2024* UCalgary Students' Union, Undergraduate Research Symposium Faculty of Science Award - **$1000**

*2024* Jason Lang Scholarship - **$1000**

*2024* University of Calgary, Faculty of Science Dean's List

*2024* UCalgary Students' Union, SUPERWork Award - **$1000**

*2024* Alberta Innovates, Summer Research Studentship Award - **$7500**

*2024* University of Calgary, Graeme Bell Travel Award - **$1350**

*2023* Stanford XR, ImmerseTheBay Hackathon Winner - **$1000**

*2023* IEEE Special Interest Group on Humanitarian Technologies, Project Voice Hackathon – 3rd place

*2023* University of Calgary, Faculty of Science Dean's List

*2023* Natural Sciences and Engineering Research Council of Canada (NSERC), Undergraduate Student Research Award - **$7500**

*2023* Jason Lang Scholarship - **$1000**

*2022* University of Calgary, Faculty of Science Dean's List

*2022* Jason Lang Scholarship - **$1000**

*2021* Alexander Rutherford Scholarship - **$2500**

## Skills

Developing VR and AR experiences with Unity3D

User studies (human subject research)

Virtual Agents and Avatars

Programming (C#, C++, Python, JavaScript, Java)

Math (calculus, linear algebra, statistics)

Computer Graphics and Computer Vision

Ethics

Strong written and oral communication

## Personal Projects / Hackathons

**Visualizing Proteins in Mixed Reality** (Unity3D, C#, AR glasses)

**Calgary Drone Simulator** (Unity3D, C#, Blender)

**Gesture-Controlled Arcade Game** (Python, Computer Vision)

**AR Biology Lesson** (Unity3D, C#, HoloLens)