

Human Interface Technology

WE PUT PEOPLE BEFORE
TECHNOLOGY

Master's and PhD qualifications in Human Interface Technology

Virtual Reality - Augmented Reality - Applied Immersive Game Design - Human-Robot Interaction





Welcome to the HIT Lab NZ

Hangarau Tangata, Tangata Hangarau | The HIT Lab NZ, is the University of Canterbury's primary research centre for virtual reality (VR), augmented reality (AR), applied immersive game design, and human-robot interaction.

The HIT Lab NZ is a world leader in Human Interface Technology.

Our work provides people with cutting edge technological solutions to enhance their work and daily life. We put people first, by looking at the tasks they are trying to accomplish, then add an appropriate mix of technology, to solve real-world problems. We are a multi-disciplinary, innovative team, which consistently produces high calibre research and development using state-of-the-art technology.

We pride ourselves in our ability to disrupt traditional uses of technology. For 18 years our research has explored how people use these technologies in order to better understand human behaviour, cognition and perception. The quality research we have produced has revolutionised how people interact with technology.

The HIT Lab NZ is involved in many sectors and industries, including;

- Medical
- Construction
- Rehabilitation
- Entertainment
- Safety
- Emergency Response
- Education
- Agriculture & Environment

Why Human Interface Technology?

At HIT Lab NZ, we cultivate connection between industry and our students to create highly skilled graduates who are ready for careers in industry or academia.

The technology industry is growing exponentially. Interactive media is the world's largest and fastest growing media sector, achieving higher levels of growth (2.5%) than the global movie sector in 2018, making revenues of USD \$136 billion*. HIT Lab NZ recognises the high demand in rapidly growing interactive media industries for skilled graduates who have analytic, coding and creative skills.

In 2020 we formed the Applied Immersive Gaming Initiative to join our existing VR/AR Research and human-robot interaction groups.

*<https://nzgda.com/news/philtwyfordinteractiveaotearoa/>

Master of Human Interface Technology

HIT Lab NZ’s MHIT programme teaches students how Human Interface Technology is applied, developed and analysed in research and industry settings. We teach an exciting range of diverse topics: ideation, user-centred design, rapid prototyping of hardware and software, and formal user evaluation.

Students in our MHIT programme engage with industry through dynamic projects and scholarships. Graduating with an MHIT prepares students to enter the workforce or continue their research with a PhD.

Structure of the MHIT Programme

The MHIT programme consists of two courses and a thesis, which are completed full-time over 12 months.

Students learn key interface design principles, the ability to describe and evaluate interface hardware and software, and research and development skills.

The MHIT is a 75% thesis and 25% taught qualification.

Taught Courses:

- HITD602 – Design & Evaluation
- HITD603 – Prototyping & Projects

In the first three months we teach course work, including theory, process, and techniques for producing and using creative technical solutions. Following this, students complete an applied design project which tests these skills.

Thesis

Our students select their research topic and supervisors. This allows them to explore research topics they are interested in and passionate about.

We ensure that students receive support from their lecturers, senior academics, PhD students and fellow master’s students. Our collaborative lab space facilitates connection and creativity in research.

The thesis component of the MHIT programme takes 9 months to complete. The thesis makes up 75% of the final grade.

MHIT Course Highlights

- Supportive work environment.
- Individual and group projects.
- Flexible research options available.
- Strong connections with industry.
- Some industry & scholarship funding is available.

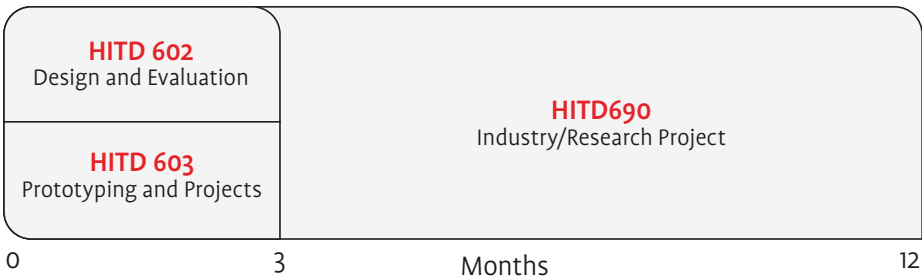
Entry Requirements

New Zealand bachelor’s degree with Honours or equivalent.

Suitable fields include Computer Science, Design, Statistics and Psychology.

While we prefer candidates with experience in programming and statistics, due to the multi-disciplinary scope of HIT research, students from related fields such as Business, Education, Engineering, Health and the Arts may also qualify.

MHIT Degree Timeline



PhD in Human Interface Technology

The doctorate in Human Interface Technology is a multi-disciplinary degree that is designed to allow students from a variety of backgrounds to undertake research in the technology field.

Unlike other institutions throughout the world, New Zealand PhD degrees are typically completed in three to four years, and do not involve course work. As a result, students can start conducting research when they begin their PhD programme. At HIT Lab NZ, research topics typically involve technology within Virtual Reality, Augmented

Reality, Applied Immersive Gaming and Human-Robot Interaction. Yet, due to the diverse expertise of our faculty, other topics will be considered.

Fields of work HIT Lab NZ is currently focused on:

- Agriculture & Environment
- Business
- Construction

- Disaster Management
- Education
- Emergency Response
- Entertainment
- Medical
- Rehabilitation
- Retail & Transportation
- Safety
- Sport Science

Faculty

Both the master's and PhD programmes are delivered by world-class academics. As a team, they teach the MHIT course work and provide supervision to both the master's and PhD students.



Professor Rob Lindeman
–Director

- Virtual, Augmented & Mixed Reality
- 3D User Interaction
- Game Design and Development
- Human-Computer Interaction
- Interactive Computer Graphics
- User Experience & Design



Professor Andrew Phelps

- Virtual & Augmented Reality
- User Experience & Design
- Game Design
- Game Development
- Games in Education
- Serious Games
- Communication



Associate Professor Christoph Bartneck

- Human-Robot Interaction
- Science & Technology Studies
- Visual Design



Associate Professor Heide Lukosch – AIGI Team Lead

- Applied Immersive Gaming
- Serious Gaming
- Games for Change
- Games for Resilience
- Virtual Training
- Educational Games
- Games in Disaster Management



Professor Stephan Lukosch

- Virtual, Augmented & Mixed Reality
- Game design & development
- Mobile & ubiquitous computing
- Design Patterns
- User Experience & Design
- Computer-Supported Collaborative Work
- Human-Computer Interaction
- Sport Science
- Disaster Management

‘The environment and people are just amazing. It doesn’t feel so much a lab as it does family. Everyone is really nice here and helps each other out. So you’re not battling alone, you have support all around you. Plus everyone wants to work together and share the research they are working on.’

Jonathan O’Duffy

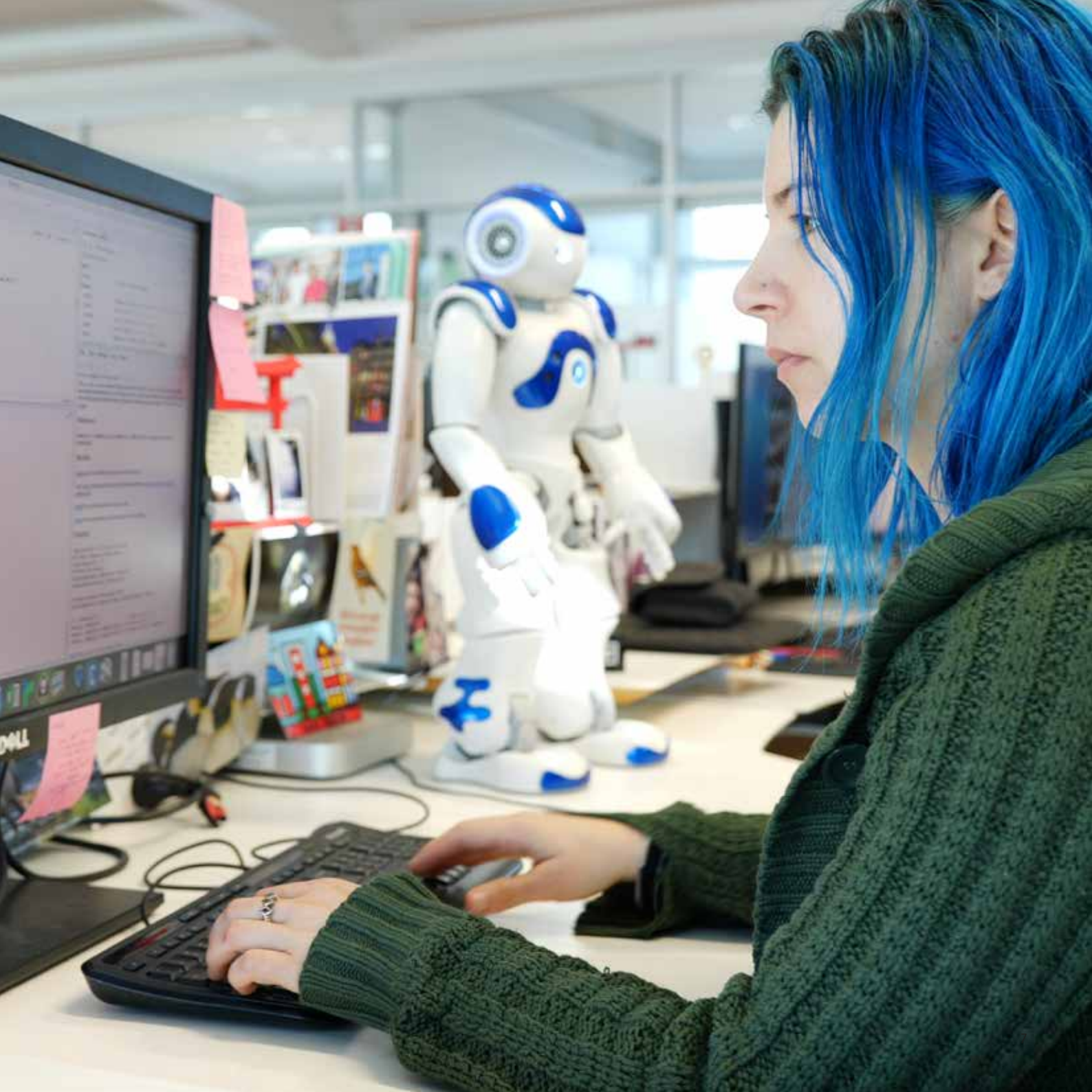
Master of Human Interface Technology Graduate

Possible Careers

Graduates of the MHIT programme have the skills to work as user experience design professionals across many industries. MHIT students sometimes continue their research as part of a PhD programme. Some of our alumni are still working in academia (a couple of whom are at the HIT Lab NZ).

Other MHIT graduates in the workforce are currently in the following roles:

- Senior Product Designers
- AR & VR Developers
- Software Developers
- Head Researchers
- Prototype Engineers
- User Experience Designers
- Audio Visual Engineers
- Consultants
- Systems Analysts
- Senior & Business Management
- Directors & Owners of Companies



Quick details

Why

Join a team which works with the most up to date technology in a high growth industry. Get the skills to produce human interface technology research that has a powerful impact on the world around us.

What

Work on world-leading human interface technology research with a multidisciplinary focus. Use state-of-the-art technology to gain a top qualification and connect with local and global industry.

When

Annual February intake.

Prerequisites

New Zealand Bachelor's degree with Honours or equivalent.

More Information

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Apply Now at

www.myuc.canterbury.ac.nz



HITK768

‘My goal is to have a vibrant lab environment that supports creative people collaborating to solve real-world problems. We aim to create new insights to support people through human interface technology.’

Professor Rob Lindeman

Director

HITLabNZ.org