Sathaporn "Hubert" Hu

A.k.a. สถาพร ฮู, 胡秀楷

Assistant Professor in Extended Reality at Algoma University

Location: Sault Ste. Marie, Ontario, Canada

Education

Jan 2018 – Jan 2024 — **Dalhousie University, Ph.D. Computer Science**

- **Funding:** Mitacs, Dalhousie University Travel Grant, Default Funding Package
- **Dissertation Title:** A Tablet + Augmented Reality Interface for Interactive Multiple Linear Regression with Geospatial Data
- **Examiners:** Prof. Derek Reilly (Supervisor), Prof. Joseph Malloch, Prof. Fernando Paulovich, Prof. Jamie Blustein, Prof. Pourang Irani (External)
- **Supervisor at Ericsson:** Dr. Saman Bashbaghi
- **Additional Certificates:** Certificate of University Teaching and Learning, GradPD

Sep 2015 – Dec 2017 — **University of Calgary, M.Sc. Computer Science**

- **Funding:** Transformative Talent Internships, Default Funding Package
- **Dissertation Title:** Designing and Evaluating a Lightweight Video Player for Language Learning
- **Examiners:** Prof. Wesley Willett (Supervisor), Prof. Usman Alim, Prof. Parmit Chilana (External)

Sep 2011 – Aug 2015 — **University of Toronto, St. George Campus, H.B.Sc. Specialist in Computer Science, Major in Cognitive Science (Computational Stream), Minor in French as a Second Language**

- **Award:** Graduated with Distinction (GPA: 3.23/4)

Research

I am a multidisciplinary researcher with interests in immersive analytics and artificial intelligence (AI). Specifically, my goals are to explore how mixed reality technologies can help the user with a better understanding of AI models, and how AI can help researchers understand mixed reality data.

Jan 2025 - Present — **Assistant Professor in Extended Reality**
Algoma University, Sault Ste. Marie Campus

- I am researching and developing extended reality software for training novices (e.g., tradespeople, and university students).
- I am collaborating with other researchers at the institution.

Jun 2024 – Dec 2024 — **Part-Time Professor**
Algoma University, Sault Ste. Marie Campus

- I continued to improve on my unpublished work from Dalhousie University.
- I submitted articles about AI, cognitive science, and extended reality.

Jan 2018 – Jun 2024 **Ph.D. Student**
Dalhousie University, Studley Campus
Global Artificial Intelligence Accelerator (GAIA), Ericsson

- I developed Gander, an AR+tablet, prototype for geospatial analysis and evaluated in three human-participation studies.
- From Jan 2021 until around Jun 2022, Gander was developed with the cooperation of GAIA, Ericsson.

Sep 2016 – Dec 2016 **Information Technology Intern**
Lenovo, Beijing

- I set up a mixed reality study and piloted it.

Sep 2015 – Dec 2018 **M.Sc. Student**
University of Calgary

- I developed Kalgan, a video player for language learning.

Sep 2014 – Sep 2015 **H.B.Sc. Research Assistant**
University of Toronto, St. George Campus

- I assisted with TAGLab, a computer science laboratory for developing software and technology for seniors in their research endavour.
- I wrote a cognitive science report with the guidance of Prof. John Vervaeke.

Teaching

Fall 2024 **Lecturer for COSC 2006: Data Structure I (Sessions 001 and 002)**
Algoma University, Sault Ste. Marie Campus

Spring 2024 **Lecturer for COSC2006: Data Structure I (Session A)**
Algoma University, Sault Ste. Marie Campus

Winter 2024 **Lecturer for COSC3117: Artificial Intelligence (Session A) and COSC2836: Computer Software for Science (Session A)**
Algoma University, Sault Ste. Marie Campus

Fall 2022 **Teaching Assistant for CSCI5610: Designing for UX**
Dalhousie University, Online

Winter 2022 **Lecturer for CSCI4169/6307: Human-Computer Interaction**
Dalhousie University, Online

Spring 2021 **Lecturer for CSCI6055: Research Methods and Statistics**
Dalhousie University, Online

Teaching Assistant for CSCI3160: Designing User Interfaces
Dalhousie University, Online

Winter 2022 **Teaching Assistant for SCIE4702: Science and Technology Innovation, Commercialization, and Entrepreneurship II**

Dalhousie University, Online
Course Builder for PHYC 3010: Experimental Physics II

Dalhousie University, Online

Fall 2021 — **Lecturer for CSCI6055: Research Methods and Statistics**
Dalhousie University, Online

Winter 2020 — **Teaching Assistant for CSCI4163/6610: Human-Computer Interaction**
Dalhousie University, Studley Campus

- **Note:** Due to the COVID pandemic of 2020, this position transitions to online later into the semester.

Emergency Course Builder
Dalhousie University, Remote

- **Note:** This position was created by the university to help instructors transition their courses online.

Summer 2019 — **Teaching Assistant for CSCI6055: Research Methods and Statistics**
Dalhousie University, Studley Campus

Winter 2019 — **Teaching Assistant for CSCI4163/6610: Human-Computer Interaction**
Dalhousie University, Studley Campus

Fall 2018 — **Teaching Assistant for CSCI4163/6610: Human-Computer Interaction**
Dalhousie University, Studley Campus

Winter 2018 — **Teaching Assistant for CSCI1101: Computer Science II**
Dalhousie University, Studley Campus

Fall 2017 — **Teaching Assistant for CPSC203: Introduction to Problem Solving Using Application Software**
University of Calgary

Winter 2017 — **Teaching Assistant for SENG513: Web-based Systems**
University of Calgary

Winter 2016 — **Teaching Assistant for SENG513: Web-based Systems**
University of Calgary

Fall 2015 — **Teaching Assistant for SENG217: Introduction to Computer Science for Multidisciplinary Studies I**
University of Calgary

Fall 2013 — **Teaching Assistant for CSC108: Introduction to Programming**
University of Toronto

Industry Experience

Jan 2021 – Jun 2022 — **Mitacs Ph.D. Intern**
Dalhousie University and Ericsson

- I developed my Ph.D. project with guidance from Ericsson.
- Ericsson assisted me in filing a patent based on my work.

Dec 2019 – Jan 2020 **Contract Data Analyst**
Windsor/West Hants Together, the Government of Nova Scotia
- I analyzed online survey results in order to advise how Windsor, Nova Scotia can best amalgamate with West Hants, Nova Scotia.

May 2019 – Aug 2019 **Graduate Research Assistant**
Dalhousie University, Truro Campus
- I evaluated the classrooms at the Truro campus for their suitability for teaching and learning.

May 2018 – Oct 2019 **Graduate Research Assistant**
Dalhousie University, Studley, Carleton, and Studley Campuses
- I evaluated the classrooms at all Halifax campuses for their suitability for teaching and learning.

Sep 2016 – Dec 2016 **Information Technology Intern**
Lenovo, Beijing
- I helped with preliminary data analysis and set up a virtual reality study.

May 2014 – Aug 2014 **Information Technology Intern**
Jet Asia Airways, Bangkok
- I helped with setting up Microsoft Office 365 system at the airlines.
- I also provided additional technical supports.

Publications and Patent

2024 **[Workshop Paper] Hu, S.**, Raza, M. & Reily, D. (2024). Gander: The Preliminary Design and Evaluation of an AR+Tablet System for Geospatial Analysis, *2024 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)*. Institute of Electrical and Electronics Engineers.
- Presented online at MASK'24 Workshop at IEEE ISMAR'24

[Full Conference Paper] Connor, C., Scheonborn, E. C., **Hu, S.**, Porcino, T. M., Moore, C., Reily, D. & Lages, W. S. (2024, October 7). Examining Pair Dynamics in Shared, Co-located Augmented Reality Narratives. *SUI '24: Proceedings of the 2024 ACM Symposium on Spatial User Interaction*, (17). The Association of Computing Machinery. https://dl.acm.org/doi/10.1145/3677386.3682091

2023 **[Full Conference Paper] Hu, S.** & Reily, D. (2023). Comparative Glyph-Field Trajectory Analyses with an AR+Tablet Hybrid User Interface for Geospatial Analysis Tasks. In J.-M. Normand, M. Sugimoto & V. Sundstedt (Eds.), *International Conference on Artificial Reality and Telexistence Eurographics Symposium on Virtual Environments*. The European Association for Computer Graphics. https://doi.org/10.2312/egve.20231320
- Presented in-person at ICAT-EGVE'23

[Poster Paper] Hu, S. & Reily, D. (2023). Parallax-based Glyph Composition Technique with Colour-Blending Glyphs. In A. Campbell, C. Krogmeier, & G. Young (Eds.), *International Conference on Artificial Reality and Telexistence Eurographics Symposium on Virtual Environments - Posters*. The European Association for Computer Graphics. https://doi.org/10.2312/egve.20231342
- Presented as a poster at ICAT-EGVE'23

2022 **[Patent] Hu, S.**, Reilly, D., Bashbaghi, S. (2022). Augmented Reality + Tablet Interface for Multiple Linear Regression Model Creation. Ericsson. [Patent no. PCT/IB2022/052779]
- The application process is still ongoing.

2021 **[Full Conference Paper] Hu, S.**, Malloch J. & Reily, D. (2021). A Comparative Evaluation of Techniques for Locating Out of View Targets in Virtual Reality. *Proceedings of Graphics Interface 2021*. Canadian Human-Computer Communications Society. https://graphicsinterface.org/proceedings/gi2021/gi2021-32/

- Presented online at GI'21. The in-person presentation was cancelled due to the COVID pandemic.

2018 **[Late-Breaking Work] Hu, S.**, Willet, W. (2018). Kalgan: Video Player for Casual Language Learning. *CHI EA '18: Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems*. Association of Computing Machinery. https://doi.org/10.1145/3170427.3188498

- Presented as a poster at ACM CHI'18.

Services

Jun 2024 – Present	**Member of the Graduate Research Committee** ***Association for Research in Digital Interactive Narratives (ARDIN)***
2024	**Emergency Peer Reviewer** ***ACM SUI Conference***
2020, 2022 – 2023, 2024	**Peer Reviewer** ***IEEE ISMAR Conferences***
2019, 2023	**Peer Reviewer** ***ACM SIGCHI Conferences***
2023	**Peer Reviewer** ***IEEE VIS Conference***
May 2021 – Jul 2021	**Organizer** ***Dalhousie Computer Science In-House Conference (DCSI)***
Jan 2020	**Mentor** ***DCSI***
May 2018	**Student Volunteer** ***ACM SIGCHI Conference***
Jan 2018	**Session Chair and Judge** ***DCSI***
May 2016 – Aug 2016	**Vice-President – Finance** ***Computer Science Graduate Society, University of Calgary***
Sep 2011 – Aug 2015	**Administrator** ***Cognitive Science and Artificial Intelligence Student Association (CASA), University of Toronto***

Skills

Technical Skills

- Data Analytics with R, Python, Tableau, and Excel
- Mixed Reality Development with Unity and MRTK
- Cognitive Science and AI with NLTK
- Web Development with HTML/CSS, JavaScript, NodeJS
- UX and User Interface Design
- Scientific Writing with LaTex
- Other Programming Languages: Java, Visual Basic, and etc.

Languages

- Thai *(Native)*
- English *(Advanced)*
- French *(Intermediate)*
- Mandarin *(Intermediate)* Japanese *(Beginner)*