Ang LI

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PROFESSIONAL SUMMARY

Graduated as the Dux of the Bachelor of Computer Science Advanced at Monash University with 1st Class Honours. Prospective PhD student at the University of Queensland. Strong enthusiasm for Human-Computer Interaction with a focus on AR/VR and Data Visualisation. Excellent capacity to retain new things. Reliable team member with a personable nature and positive communication style.

PERSONAL DETAILS

Nationality: Chinese Languages Spoken: Chinese (native), English (proficient) ORCID: <u>0000-0001-7707-0494</u>

EDUCATION

St Lucia QLD 4072, Australia

04/2023-Current

- Higher Degree by Research Scholar in Human Computer Interaction
- Awards:
 - University of Queensland Research Higher Degree Scholarship
 - University of Queensland Research Training Scholarship
- Thesis Topic: Extreme Analytics, supervised by Dr **Maxime Cordeil**, Dr Jarrod Knibbe, Prof Gianluca Demartini, and Assoc/Prof Stephen Viller

Monash University Wellington Rd

Wellington Rd, Clayton VIC 3800, Australia

03/2018-03/2022

- Bachelor of Computer Science Advanced (Honours)
- WAM: 81.065 (First Class Honours)
- Awards:
 - Dux of Undergraduate in The Bachelor of Computer Science Advanced (Honours) (Awarded to the top graduating student in the faculty with the best overall results)
 - Australian Computer Society (ACS) Victoria Student Award (Nominated)
 - Faculty Commendation for FIT2082, Semester 2, 2020 (Awarded to the student who has achieved the highest grade in unit FIT2082, Computer science research project)
- GRE Score: 323+4.0
- Honours Year Research Thesis: GestureExplorer: Supporting Immersive Visualisation and Exploration of Gesture Data

PROFESSIONAL AFFILIATIONS AND MEMBERSHIPS

ACM

02/2023-Current

- Student Member
- SIGCHI Member

IEEE

03/2022-Current

• Young Professional (Victorian Section)

RESEARCH OUTPUTS

Embedded and Situated Visualisation in Mixed Reality to Support Interval Running 11/2023-11/2024

This was the first main research project during my PhD candidature. We investigated novel and visualisation techniques in Mixed Reality for pacing data to tackle the obtrusiveness of accessing data while running with a smartwatch.

Supervisor: Maxime Cordeil, Jarrod Knibbe, Gianluca Demartini, Stephen Viller

The research outcome of this project includes a conference publication listed below, I was fully responsible for the design, development, and evaluation of the project as well as the writing of the paper, with advice from my supervisors (co-authors).

1. A. Li, C. Perin, J. Knibbe, G.Demartini, S. Viller, and M. Cordeil, "Embedded and Situated Visualisation in Mixed Reality to Support Interval Running," Accepted at Eurographics Conference on Visualization (EuroVis) 2025, doi: 10.1111/cgf.70133.

Running with Data: a Survey of the Current Research and a Design Exploration of Future Immersive Visualisations 10/2023-03/2025

This was part of the first main research project in my PhD candidature. We derived a design space through prior research of in-situ visualisations for running, identifying a trend towards the use of the extrapersonal display space for running visualisations. We then elicited further insights from runner-proposed visualisation and interaction designs through a series of ideation workshops.

Supervisor: Maxime Cordeil, Jarrod Knibbe, Gianluca Demartini, Stephen Viller

The research outcome of this project includes a conference publication listed below, I was fully responsible for the survey, workshop, evaluation, and the writing of the paper, with advice from my supervisors (co-authors).

1. A. Li, C. Perin, S. Viller, G.Demartini, J. Knibbe, and M. Cordeil, "Running with Data: a Survey of the Current Research and a Design Exploration of Future Immersive Visualisations," Currently under review at IEEE VIS 2025.

GestureExplorer: Immersive Visualisation and Exploration of Gesture Data 03/2021-11/2022

This was my honours year research project. As previous tools for Gesture Elicitation Studies have been limited to 2D projections of gestures performed in 3D space, we aimed to develop an immersive software that facilitates the analysis and exploration of gesture data, providing engaging and intuitive experiences

Supervisor: Barrett Ens, Maxime Cordeil

The research outcome of this project includes three conference publications listed below, I was fully responsible for the design, development, and evaluation of the project as well as the writing of the papers, with advice from my supervisors (co-authors).

- 1. A. Li, J. Liu, M. Cordeil and B. Ens, "Initial Evaluation of Immersive Gesture Exploration with GestureExplorer," 2022 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW), 2022, pp. 580-581, doi: 10.1109/VRW55335.2022.00141.
- A. Li, J. Liu, M. Cordeil and B. Ens, "Demonstrating Immersive Gesture Exploration with GestureExplorer," 2022 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW), 2022, pp. 980-981, doi: 10.1109/VRW55335.2022.00341.
- A. Li, J. Liu, M. Cordeil and B. Ens, "GestureExplorer: Immersive Visualisation and Exploration of Gesture Data," In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23). Association for Computing Machinery, New York, NY, doi: 10.1145/3544548.3580678.

RESEARCH GRANTS AND AWARDS

023-05/2027
525 05/2021
07/2024
02/2023
03/2022

OTHER RESEARCH/PROJECT EXPERIENCE

VisBank – Data Viceralisation for Banking and Financial Data – Team Lead

VisBank is a mixed reality (MR) platform that aims to transform abstract banking information into immersive and engaging visualisations that closely relate to customers' lived experiences/financial expectations. Together with intuitive interactions and the spatiality of Mixed Reality environments, VisBank aims to keep existing users engaged with their financial goals, as well as to help them manage and compare the various banking products offered at WestPac

• Led the design and development of the VisBank software with Unity

An Immersive Expressive Avatar for Health Context Awareness

A supervised research project that aimed to develop new techniques for extracting emotional features from human actors and mapping these to various virtual avatars. The avatars respond to different emotional inputs detected from human users

Supervisor: Barrett Ens

- Leveraged self-studied skills of modelling, rigging, developed multiple avatars that manifested a range of realistic facial expressions, and implemented a Python pipeline in Maya that improved the efficiency of facial blendshapes
- Contributed various mappings of facial expressions to virtual avatars •
- Developed a prototype with Vuforia in Unity where users can interact with the avatars in different AR environments
- Documented the project and its workflow in both video and textual forms and presented them on multiple platforms

AR Hand Gesture Capture for Interactive Data Analytics

A supervised research project that aimed to develop software that would assist with recording and analysing hand gesture data and ultimately, find out what are the bare hand gestures we could use in augmented reality to fully support data visualisation tasks

Supervisor: Barrett Ens, Max Cordeil

- Developed a prototype software in Unity that visualised the captured data of hand gestures and • supported similarity analysis among the gestures
- Researched academic papers on gesture elicitation studies, selected and implemented a suitable algorithm from the documents to power up the consensus analysis in the Unity application
- Collaborated in a team of 3 to conduct a preliminary study, in which a dataset of hand gestures was collected to evaluate the correctness of the Unity prototype
- Awarded a faculty commendation for achieving the highest grade among all research projects

Barriers to Telehealth Accessibility Among Elderly Chinese Migrants in Australia 06/2020-07/2020

A cross-discipline research project conducted in the invitation based Interdisciplinary Research Collaboration (IRC) Program at Monash University, only top students in each faculty were eligible to participate. I gained valuable insights into interdisciplinary research from this project

Drafted the research proposal alongside 2 teammates from different faculties

07/2020-02/2021

07/2024

07/2020-10/2021

- Offered insights on potential barriers the elderlies may have from the perspective of an IT technician.
- Designed and surveyed groups of elderly Chinese migrants in the greater Melbourne area.
- Wrangled the collected data and performed qualitative and quantitative analysis on it in SPSS.

Monash Hackathon 2019-Team Member

An intensive 24-hour programming contest where 25 teams of contestants made applications that aimed to improve students' well-being. We designed and implemented a solution to meetups for students, helping them connect to people of similar interests and acquire new skills

- Built a mobile application that allowed the student to login, organise, and join meetups based on their preferred interest and the meetup's recommended skills
- Participated in the brainstorming of the features of the application, designed and implemented the login page for the application
- Acquired valuable experience to develop teamwork skills and learned the industry-level skills of mobile app development

TEACHING EXPERIENCES

DECO2300/7230 (Digital Prototyping) - Lead Tutor University of Queensland 07/2024-Current

- Designed and developed tutorial and studio content aimed at enhancing students' ability of rapid XR prototyping with Unity and Meta XR SDK using Meta Quest 2 headsets
- Worked closely with the course coordinator to align the content with course objectives and ensure a smooth learning experience for students.
- Managed the course's Ed forum, addressing student inquiries and facilitating discussions, contributing to an active and supportive online learning community.

Casual Outreach and Engagement AssistantUniversity of Queensland03/2024-Current

- Moderated workshop sessions for visiting First Nation students from various regions
- Demonstrated cutting-edge immersive technologies in research and industry

DECO2500/7250 (Human Computer Interaction) - Tutor University of Queensland 02/2024-06/2024

- Supported students in exploring fundamental HCI principles, user-centered design methodologies, and usability evaluation techniques.
- Moderated interactive tutorial sessions, providing guidance on user research and prototyping, and offering feedback on project work to help students refine their design processes.

DECO2300/7230 (Digital Prototyping) - Tutor

University of Queensland 07/2023-11/2023

ACADEMIC REFEREES

Dr. Maxime Cordeil

Senior Lecturer,

School of Information Technology and Electrical Engineering, Faculty of Engineering, Architecture and Information Technology, University of Queensland

- Address: Staff House Road, The University of Queensland, St Lucia QLD 4072, Australia
- Email: <u>m.cordeil@uq.edu.au</u>

Dr. Maxime Cordeil was a supervisor/co-supervisor in many of my research projects at Monash University. He is the main supervisor of my Ph.D study at the University of Queensland.

Dr. Barrett Ens

Associate Professor,

Irving K. Barber Faculty of Science, Department of Computer Science, Mathematics, Physics and Statistics, The University of British Columbia

- Address: 3187 University Way, ASC 413, Kelowna, BC Canada V1V 1V7
- Email: <u>barrett.ens@ubc.ca</u>

Dr. Barrett Ens was the main supervisor of my research projects and my honours thesis at Monash University.

04/2019-04/2019