

# Ang LI

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Brisbane, Queensland, Australia

## PROFESSIONAL SUMMARY

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

## PERSONAL DETAILS

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Nationality: Chinese

Languages Spoken: Chinese (native), English (proficient)

ORCID: [0000-0001-7707-0494](https://orcid.org/0000-0001-7707-0494)

## EDUCATION

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**Monash University** Wellington Rd, Clayton VIC 3800, Australia 03/2018-12/2021

- Bachelor of Computer Science Advanced (Honours)
- WAM: 81.065 (First Class Honours)
- GPA: 3.87/4.0
- 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 (8946 words)

## PROFESSIONAL AFFILIATIONS AND MEMBERSHIPS

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### ACM

02/2023-Current

- Student Member
- SIGCHI Member

### IEEE

03/2022-Current

- Young Professional (Victorian Section)

## RESEARCH OUTPUTS

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**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 tool that facilitates the analysis and exploration of gesture data, providing engaging and intuitive experiences*

*Supervisor: Barrett Ens, Max Cordeil*

- Sifted through existing literature, summarised, synthesised and assessed the existing visualisation approaches for gesture elicitation study

- Applied advanced techniques in Unity and VR development, implemented a system for gesture analysis and exploration
- Established a backend in python to support k-means and mean shift clustering, dimensional reduction with PCA and MDS, calculation of dynamic time warping distance for pattern identification of gesture data
- Conducted user studies among recruited participants to evaluate the developed visualisations and features and made improvements based on the feedback
- Proposed a research poster, a research demonstration and a research paper using LaTeX and submitted them to top-tier conferences

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.
2. **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.
3. **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**

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|---|-----------------|
| <b>University of Queensland Research Higher Degree Scholarship</b>            | 04/2023-05/2027 |
| <b>University of Queensland Research Training Scholarship</b>                 | 04/2023-05/2027 |
| <b>SIGCHI Gary Marsden Travel Awards</b>                                      | 02/2023         |
| <b>IEEE VR 2022 Conference-The Honourable Mention for the Best Demo Award</b> | 03/2022         |

## **OTHER RESEARCH/PROJECT EXPERIENCE**

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**An Immersive Expressive Avatar for Health Context Awareness** 07/2020-02/2021  
*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** 07/2020-10/2021

*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 (co-supervisor)*

- Developed a prototype 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
- 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** 04/2019-04/2019

*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

## **ACADEMIC REFEREES**

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### **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: [m.cordeil@uq.edu.au](mailto:m.cordeil@uq.edu.au)

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**

Senior Lecturer,

Faculty of Information Technology, Monash University

- Address: Level 6, Building H, Caulfield campus, 900 Dandenong Road, Caulfield East, VIC 3145, Australia
- Email: [barrett.ens@monash.edu](mailto:barrett.ens@monash.edu)

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