Cheryl Lao

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EDUCATION

MASTER OF MATHEMATICS (MMATH) — SEPTEMBER 2020 - PRESENT

CHERITON SCHOOL OF COMPUTER SCIENCE, UNIVERSITY OF WATERLOO

- Thesis-based master's program in computer graphics (CG) and human-computer interaction (HCI)
- Supervisors: Craig Kaplan (CG) and Daniel Vogel (HCI)
- GPA: 4.0/4.0 | 95.5%

HONOURS BACHELOR OF SCIENCE (HBSC) — SEPTEMBER 2015 - JUNE 2020

DEPARTMENT OF COMPUTER SCIENCE, UNIVERSITY OF TORONTO

- Computer Science Specialist, focus in Computer Vision
- Graduated with High Distinction
- Coursework:
  - Human-Computer Interaction
  - Computer Graphics
  - Introduction to Image Understanding
  - Introduction to Machine Learning
  - The Design of Interactive Computational Media
  - Calculus I and II (Multivariable)
  - Algorithm Design, Analysis and Complexity

WORK EXPERIENCE

- **RESEARCH INTERN** — **MAY 2021 – AUGUST 2021**
  ADOBE, VIRTUAL
  - Conducted HCI research on typographical layouts with the Graphics Intelligence & Learning Lab

- **RESEARCH ASSISTANT** — **JULY 2020 – AUGUST 2020**
  UNIVERSITY OF TORONTO, VIRTUAL
  - Conducted user studies and reported findings a research paper (currently under review for SUI 2021) based on a VR prototype that I had built

- **SOFTWARE DEVELOPER INTERN** — **MAY 2019 – AUGUST 2019**
  AUTODESK, TORONTO ON, CANADA
  - Developed features for Autodesk Maya's Render Setup using **pyMEL**, **Python** and **Qt**
  - Worked closely with designers and other software developers to create a more intuitive user experience with additional capabilities

- **SOFTWARE DEVELOPER INTERN** **MAY 2018 - MAY 2019**
  INTEL, TORONTO ON, CANADA
  - Architected and implemented an infrastructure in **Python** and **PostgreSQL** for organizing product attributes
  - Maintained and extended a set of automated dashboards that displayed completion statistics for project management
  - Coordinated project development with international teams
  - Used mathematical models to predict FPGA static power consumption and wrote supporting software in **C++** and **Python**

- **SOFTWARE DESIGNER INTERN** **MAY 2017 - AUGUST 2017**
  NOKIA, OTTAWA ON, CANADA
  - Wrote various **python** and **bash** scripts used in daily build testing
  - Improved work efficiency by automating common tasks such as installing new builds of our product, setting up passwordless login between network computers and modifying files for product installation
  - Mentored other summer students and taught them about the **Robot framework** as well as **bash scripting**

RESEARCH PROJECTS

- **DESIGN SPACE EXPLORATION IN VIRTUAL REALITY (CURRENTLY UNDER REVIEW FOR SUI 2021)**
  HUMAN-COMPUTER INTERACTION RESEARCH PROJECT
  - Supervisors: Daniel Wigdor, Fanny Chevalier, Haijun Xia
  - Reviewed existing research on virtual reality (VR) authoring tools
  - Designed a novel interaction technique for visualizing for VR design space exploration
  - Developed the VR prototype in **Unity (C#)** for **Oculus Rift**
  - Devised and conducted user studies to evaluate the prototype

- **IDYLLIC ISLAND**
  EDUCATIONAL GAME DESIGN RESEARCH PROJECT
  - Supervisors: Steve Engels and Daniel Zingaro
  - Conducted user tests on various prototypes
  - Designed and implemented mathematical models for an animal population balancing game in **Unity 2D** and **C#** that followed the Ontario grade 6 biodiversity curriculum.

TEACHING EXPERIENCE

- **INSTRUCTIONAL APPRENTICE** **SEPTEMBER 2020 – APRIL 2021**
  UNIVERSITY OF WATERLOO
  - Helping students to understand basic programming concepts using Processing.js in CS 105 (Introduction to Computer Programming)
  - Clarifying course concepts and providing assistance with coursework in office hours
  - Marking lab submissions

SERVICE

- **Panelist**, Careers in Computing Panel (2021), University of Waterloo
  - Prepared a short talk and answered questions from undergraduate students looking to learn about
- **Student Volunteer**, UIST 2020 Conference
  - Assisted in various virtual conference tasks such as streaming and monitoring discussions
- **Panelist**, Women in CG Panel, SIGGRAPH 2020 Conference
  - Shared academic and professional experiences in a panel discussion
- **Student Volunteer Team Leader**, SIGGRAPH Conferences (2019, 2020, 2021)
  - Coordinated student volunteer activities and supported the virtual conference
- **Moderator**, Toronto SIGGRAPH Chapter (2020)
  - Moderated a live panel discussion on *Immersive Technologies for Creation and Communication*
- **Executive Member**, Toronto ACM SIGGRAPH Chapter (2018-present)
  - Organized various computer graphics-related events such as industry talks, screenings, and workshops
- **Session Chair**, University of Waterloo WatCHI Event (2020)
  - Introduced authors and their papers during the online event
- **President** and **Founder** of the University of Toronto Computer Graphics Club (2016-2020)
  - Took the initiative to start a club and grew it to over 350 members over 4 years
  - Coordinated research talks, taught workshops and hosted events at least monthly
  - Organized a computer graphics job fair with several leading companies in computer graphics, VFX, and interactive techniques
- **Student Volunteer**, SIGGRAPH 2018 Conference
  - Assisted in various conference tasks such as greeting attendees and monitoring sessions
- **Microsoft Student Partner** (2017-2020)
  - Organized technical events such as a tutorial on the Microsoft Computer Vision API
- **Executive Member** University of Toronto Undergraduate Research in Computer Science (2019-2020)
  - Worked with other executives to host an undergraduate CS research conference
- **Vice President** of University of Toronto Computer Science Student Union (2017-2018)
  - Served as Acting President when the President was unable to continue fulfilling duties
  - Coordinated efforts to create a more inclusive computer science community
  - Instituted a general council for greater student body involvement
  - Organized a semi-formal dinner for faculty and students

TECHNICAL SKILLS

- Python
- C#, C++, C
- Java
- JavaScript
- HTML
- CSS
- SQL
- Git & Perforce
- Unity
- OpenCV
- PyTorch
- Processing.js
- Docker
- Qt
- Photoshop
- Maya

HONOURS AND AWARDS

- **University of Waterloo Mathematics Domestic Masters Scholarship** (2020)
  - Awarded to incoming Canadian master's students
- **University of Toronto Canada Chinese Computer Science Association Scholarship** (2017)
  - Awarded to an undergraduate computer science student of high academic standing who has demonstrated interest in Chinese literature, language or culture
- **University of Toronto Dean's List** (2016, 2017, 2020)
  - Awarded to students who achieved an average above 3.50/4.0 in the past 5.0 credits
- **Organizer's Choice Award (3rd place),** The Lady Hacks (2016)
  - Awarded to hackathon groups with the the best projects as decided by the organizers
- **University of Toronto Friends of Victoria University Library Scholarship** (2016)
  - Awarded on the basis of academic performance in the first group of 5.0 credits