

# Qing (Tim) Liu

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timliu0522

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## TECH SKILLS

**Programming Languages:**  
C#, C++, Swift, Python, SQL,  
Bash/Shell

**Tools & Frameworks:**  
Unity, SwiftUI  
AngularJS, ASP.NET, MVC

**SDLC DevOps:**  
Linux, Git, Agile, JIRA, Docker

## EDUCATION

**Bachelor of Computer Science,**  
**University of Waterloo**  
Sept. 2018 - Present, 4A  
Grade: 91 (Dean's list)

## AWARDS

**2021-2022**  
UWaterloo President's Research  
Scholarship x 2  
**2018**  
UWaterloo President's  
Scholarship of Distinction

## PROJECTS

**2D MOBA Game** (C#, Unity)

**VR widgets** (OpenVR, Oculus  
Quest, Godot)

**Hand Segmentation** (Python,  
OpenCV)

## EXPERIENCE

**Undergraduate Research Assistant**  
**University of Waterloo HCI Lab** September 2020 - Present  
Waterloo, ON

- Researching with Prof. Jian Zhao in the area of haptics and VR, with a focus on User Interface implementation (Swift), user data analysis and paper writing
- Submitted and will publish a co-first authorship paper in CHI 2022
- Collaborating on a project about VR streaming, will submit to CSCW 2022

**Software Engineer Intern**  
**Microsoft** Jan. 2022 - Present  
Vancouver, BC

- Working on Gears game series as a software engineer in the XBOX studio

**Software Engineer Intern**  
**Unity** May 2021 - Aug. 2021  
Montreal, QC

- Worked on Unity Reflect, a 3D BIM Viewer that boosts the data visualization of Architecture, Engineering & Construction
- Built the new animation system that can combine different animations into a composed one, and created 5 new animations
- Implemented UI widgets like Dropdown lists, search bars and the corresponding unit tests (Unity Editor, C#)

**HCI Research Engineer Intern**  
**Huawei Human-Machine Interaction Lab** May 2020 - Aug. 2020  
Markham, ON

- Completed 2 software & hardware prototypes (VR, Arduino) and integrated a hand gesture recognition model into production system
- Implemented image segmentation on hands (Python, OpenCV) and integrated it into the gesture recognition system
- Developed a VR application (Godot, OpenVR) to research & simulate haptics of widgets such as buttons, sliders and knobs

**Software Engineer Intern**  
**Bank of Montreal Capital Markets** Sept. 2019 - Dec. 2019  
Toronto, ON

- Developed 2 full-stack data visualization websites from scratch with ASP.NET MVC (Razor, HTML, C#) as web framework and Oracle DB & SQL Server as database tools to visualize bond information
- Built 2 multithreading Windows services (WPF, .NET) that linearly interpolates real-time bid yield & bid price

## PUBLICATION

Pengcheng An\*, Ziqi Zhou\*, **Qing Liu\***, Yifei Yin, Linghao Du, Da-Yuan Huang, and Jian Zhao. 2021. VibEmoji: Exploring User-authoring Multi-modal Emoticons in Social Communication. arXiv:2112.13555 [cs] (Dec. 2021).

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