

# Hao Ju

MASTER'S STUDENT, FULL-STACK RESEARCH ENGINEER

3661 rue Peel, Montreal, Quebec H3A 1X1

☎ +1(438)866-2463 | ✉ hao.ju@mail.mcgill.ca | 🏠 haojuuestc.github.io | 📱 HaoJuUESTC | 🌐 hao-ju

## Skillsets

<b>Programming</b>	MATLAB, C, Python, VHDL, JavaScript, C#, HTML, Java
<b>Tools</b>	Simulink, SPSS, RapidMiner, Adobe Illustrator, Figma, Microsoft Access
<b>Embedded Systems</b>	Arduino, STM32, Raspberry Pi, MCS 8051, Xilinx Virtex
<b>Courses</b>	Data Structure & Algorithms, Data Mining, Applied Machine Learning, Information Systems Design, Human Computer Interaction, Usability Analysis & Assessment
<b>Languages</b>	Mandarin (native), English (fluent, IELTS 8.0), French (basic)

## Education

### School of Information Studies, McGill University

Montreal, Canada

MIST IN INFORMATION STUDIES, RESEARCH-BASED

Sept 2019 - Exp. May 2021

- GPA: 3.73/4.0
- Area of specialization: Human Computer Interaction; Accessibility & User Experience; Wearable Devices

### School of Electronic Engineering, Univ of Electronic Sci & Tech of China (985,211)

Chengdu, P.R.China

B.ENG. IN ELECTRICAL AND COMPUTER ENGINEERING

Sept. 2014 - July 2018

- GPA: 3.86/4.0 (Final year 3.91/4.0), Ranking: 5/42 (Final year 3/42)
- Honorary Graduate of UESTC

## Selected Experiences

### RESEARCH & DEVELOPMENT

#### Research Intern (remote)

Montreal, Canada

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING, UNIVERSITY OF CALIFORNIA, LOS ANGELES

Sept. 2020 - Present

- Designing and developing a system to perform hand activity sensing with wearable millimeter wave sensors and machine learning algorithms.

#### Research Assistant

Montreal, Canada

SCHOOL OF INFORMATION STUDIES, MCGILL UNIVERSITY

Sept. 2019 - Present

- Designing and developing a wearable limb-based input system for older adults, based on Raspberry Pi and Java. A study on the difference between interaction habits and performances among older adults and their younger peers is to be performed.

#### Research Assistant

Hong Kong, P.R.China

SCHOOL OF CREATIVE MEDIA, CITY UNIVERSITY OF HONG KONG

Sept. 2018 - May 2019

- Provided technical support in Arduino programming and circuit design & troubleshooting for other PhD students.
- Designed and developed hardware and firmware prototypes for visually challenged schoolchildren based on Arduino and C, e.g. musical building blocks introducing programming languages (follow-up work published in DIS' 20 Companion. doi: 10.1145/3393914.3395895), thermal display systems for geographical education, etc.
- Co-designed and co-conducted user study experiments.

#### Research Intern

Montreal, Canada

SHARED REALITY LAB, MCGILL UNIVERSITY

July 2017 - Oct. 2017

- Developed the hardware and firmware of a foot-based interactive system based on Arduino, C, and VICON. Co-designed the menu layout in Unity using C#. Co-designed and conducted qualitative & quantitative usability study through interviews & NASA-TLX questionnaires. Published at ACM DIS'18 conference.
- Enhanced the performance of an existing prototype generating burning-hot illusion with Electro-Muscular Stimulation. Improved temperature detection accuracy by 37.5% by re-designing the system, switching from thermal variable resistors to digital sensors.

### PRODUCTION & QUALITY CONTROL

#### Production Management Intern

Shenzhen, P.R.China

SIGLENT TECHNOLOGIES

Aug. 2016

- Co-managed production and quality control process with full-time employees at the leading Chinese oscilloscope manufacturer

### TEACHING

#### Senior Private Session Tutor

Montreal, Canada

EASY GROUP INC.

Sept. 2020 - April 2021

- Providing tailored on-on-one lectures on 100-300 level classes in Computer Science and Electrical & Computer Engineering

#### Teaching Assistant

Montreal, Canada

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING, MCGILL UNIVERSITY

Sept. 2020 - Dec. 2020

- Teaching Assistant of ECSE 222 Digital Logic. Job responsibility including teaching, demoing, and providing technical support in VHDL

**Core Member, Technical Volunteer**

Chengdu, P.R.China

TECHNOLOGY ASSOCIATION FOR SCHOOL OF ELECTRONIC ENGINEERING

Oct. 2014 - Dec. 2015

- Provided technical support and hosted weekly workshops on circuit design and embedded system programming in C and VHDL

**Publications****Millimeter Wave Gesture Sensing**

Exp. Jan. 2021

- Hao Ju and Yang Zhang. To be submitted to ACM Conference on Human Factors in Computing Systems (CHI) 2021 Late breaking works

**Limb-Based Interactive System for Older Adults**

Exp. Nov. 2020

- Hao Ju and Karyn Moffatt. To be submitted to ACM International Conference on Ubiquitous Computing (UbiComp) 2020

**Pressure or Movement? Usability of Multi-Functional Foot-Based Interfaces**

Sept. 2017

- Taeyong Kim, Hao Ju, and Jeremy Cooperstock. 2018. In proceedings of ACM SIGCHI Conference on Designing Interactive Systems (DIS) 2018. ACM. 1219-1227. doi: 10.1145/3196709.3196759

**A Data-Driven XGBoost-Based Filter for Target Tracking**

July 2018

- Bowen Zhai, Wei Yi, Ming Li, Hao Ju, and Lingjiang Kong. Poster presentation in IET Radar Conference 2018.

**Honors and Awards****Ethelwyn Crossley Memorial Scholarship, CAD 4,620**

May 2019

**Mitacs Globalink Graduate Fellowship, CAD 15,000**

Mar 2019

**National Internet Security Scholarship, CNY 30,000 (CAD 5,680)**

Aug. 2017

**'Internet Plus' Innovation & Entrepreneurship Competition, Provincial Second Prize**

July 2017

**National College Student 'Smarter Connected' System Innovation Competition, 2nd Prize of Southwest China**

July 2016

**2016 COMAP Interdisciplinary Contest In Modeling, Honorable Mention**

Apr. 2016