

# Hao Ju

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## Skillsets

<b>Programming</b>	MATLAB, C, Python, VHDL, JavaScript, C#, HTML, Java
<b>Tools</b>	Altium Designer, Quartus, Simulink, SPSS, VICON, Unity 3D, AutoCAD, Adobe Illustrator, Figma
<b>Embedded Systems</b>	Arduino, STM32, MCS 8051, Xilinx Virtex
<b>Courses</b>	Data Structure & Algorithms, Data Mining, Information Systems Design, User-Centered Design
<b>Languages</b>	Mandarin (native), English (fluent, IELTS 8.0), French (basic)

## Education

### Department of Information Studies, McGill University

Montreal, Canada

MIST IN INFORMATION STUDIES, RESEARCH-BASED

Sept 2019 - Exp. May 2021

- GPA: 3.67/4.0
- Area of specialization: Human Computer Interaction; Wearable Devices

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

Chengdu, P.R.China

B.ENG. IN ELECTRONIC INFORMATION

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 Assistant

Montreal, Canada

DEPARTMENT 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, 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.

### QUALITY CONTROL

#### Production Management Intern

Shenzhen, P.R.China

SIGLENT TECHNOLOGIES

Aug. 2016

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

### OUTREACH & LEADERSHIP

#### 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

### 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.

### 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, Second

July 2016

### Prize of SW China

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

Apr. 2016