Hao **Ju**

Master's Student, Full-Stack Research Engineer

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Skillsets

Programming	MATLAB, C, Python, VHDL, JavaScript, C#, HTML, Java
Tools	Altium Designer, Quartus, Simulink, SPSS, VICON, Unity 3D, AutoCAD, Adobe Illustrator, Figma
Embedded Systems	Arduino, STM32, Raspberry Pi, MCS 8051, Xlinx Virtex
Courses	Data Structure & Algorithms, Data Mining, Human Computer Interaction, Information Systems Design
Languages	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

University of California, Los Angeles — *Sept. 2020 - Present*

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

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 (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

Outreach & Leadership

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

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*