

Hao Ju

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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, MCS 8051, Xilinx Virtex

Courses

Data Structure & Algorithms, Data Mining, Information Systems Design, User-Centered Design

Languages

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; 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 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.

PRODUCTION & 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.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, Second Prize of SW China

July 2016

2016 COMAP Interdisciplinary Contest In Modeling, Honorable Mention

Apr. 2016