

Haotao Lai (Eric)

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Education Background

- **Concordia University** **Montreal**
2016–now
◦ Master in Computer Science (thesis-option), GPA 3.57
- **Guangzhou University** **Guangzhou**
2012–2016
◦ Bachelor in Engineering, GPA 80%

Professional Skill

- **Programming Languages:** Java, C++, JavaScript, Python
- **English proficiency:** IELTS 6.5 (no band below 6.0)
- **Hardware development:** STM32, AVR, Arduino, 80C51

Research Interests

- Computer vision, my thesis goes into this direction
- Implementation of programming language, I TA the Compiler Design course in Concordia
- Full stack development technologies

Award

- Concordia University Merit Scholarship (5000 CAD) 2018
- Guangzhou University outstanding graduation project award (2 / 200) 2016
- Guangzhou University the 2nd and 3rd place scholarship (2000 CNY, 1000 CNY) 2016, 2015

Teaching Assistance Experience

All the courses listed here are happened in Concordia University (Montreal)

- COMP442/6421 Compiler Design (given by Dr. Joey Paquet) 2018 winter
- SOEN487 Web Services and Applications (given by Dr. Serguei A. Mokhov) 2018 winter
- COMP345 Advanced program design with C++ (given by Dr. Joey Paquet) 2017 Fall

Academic Experience

Implement a reliable data transfer protocol on top of UDP.....

Team Project (1st author) 2017 fall

GitHub: <https://github.com/laihaotao/COMP6461>

- Implement a http client using TCP
- Implement a http file server using TCP
- Implement a multithread event based request handling mechanism
- Implement a reliable layer replaces the TCP used above

Pokemon-Go-Back card game.....

Team Project 2017 summer

GitHub: <https://github.com/laihaotao/COMP354>

- Project leader, organizer and the (2nd) code contributor
- Design the project structure, code manager, bug report and communication procedure
- Implement the select deck mechanism
- Implement the some useful tools for other contributors
- Design the testing process and build the testing framework

Implement a compiler.....

Team Project (1st author)

2016 winter

GitHub: <https://github.com/laihaotao/COMP6421>

- Implement a lexical analyzer
- Implement a syntactic analyser
- Implement a semantic analyser
- Implement a code generator
- combine all of them into a completed compiler

A kind of weeding robot based on computer vision.....

Individual Project

2016.03 – 2016.06

- Outstanding graduation project award (rank: 2 / 200)
- Individually developed the whole system contains: Android, VB.net, Halcon, Network communication
- Video link (YouTube) to show the project: <https://www.youtube.com/watch?v=4Qx2GHp2ZII>

Internet express system.....

Team Project (1st author)

2015.01 – 2016.06

- Received 10,000 CNY funding and a patent authorization (CN204576611U)
- Team leader of the whole project
- Created intelligence-based interactive system (both Android client and Java EE server)
- Implemented communication protocol between android and STM32 which is the control unit

Obstacle avoidance remote control robot.....

Individual Project

2015.09 – 2016.06

- Using RS485 communication protocol to organize the sensor network
- Using Visual Basic for master computer's UI and control system
- Used three casters for implementing moving system
- Design obstacle avoidance algorithm

Special projects for blind and disable children.....

Team Project (2nd author), funded by Guangzhou Education Bureau

2014.09 – 2015.06

Entertainment based system (dancing mat) for blind children

- Developed using STM32, SD card, I2C communication protocol and DMA
- Through investigative research done at the Guangzhou Blind Children School to better learn how to design communication for children's needs

Disability assistant page reader

- Applied mechanical engineering design as 1st author for the linkage, and fabrication of the synchronous belt pulley and the motor

Forklift truck system.....

Team Project (1st author)

2013.09 – 2014.06

- Developed (as 1st author) using Arduino, Bluetooth, android, and 3D printer
- Received a 2nd place award in school project competition
- An patent authorization (CN104102990A)