

Haotao Lai (Eric)

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Education Background

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| ○ Concordia University | Montreal |
| ○ <i>Master in Computer Science (thesis-option), GPA 3.57</i> | <i>2016–now</i> |
| ○ Guangzhou University | Guangzhou |
| ○ <i>Bachelor in Engineering, GPA 80%</i> | <i>2012–2016</i> |

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 Interestes

- 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

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| ○ Research Bursaries for graduate student (5000 CAD) | 2018 fall |
| ○ Concordia University Merit Scholarship (5000 CAD) | 2018 winter |
| ○ Guangzhou University outstanding graduation project award (2 / 200) | 2016 fall |
| ○ Guangzhou University the 2 nd and 3 rd place scholarship (2000 CNY, 1000 CNY) | 2016, 2015 |

Teaching Assistance Experience

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

More information can visit: <https://laihaotao.me/ta>

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| ○ COMP345 Advanced program design with C++ (given by Dr. Joey Paquet) | 2017, 2018 fall |
| ○ COMP442/6421 Compiler Design (given by Dr. Joey Paquet) | 2018 winter |
| ○ SOEN487 Web Services and Applications (given by Dr. Serguei A. Mokhov) | 2018 winter |
| ○ SOEN6441 (given by Dr. Joey Paquet) | 2018 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	
<ul style="list-style-type: none"> o Project leader, organizer and the (2nd) code contributor o Design the project structure, code manager, bug report and communication procedure o Implement the select deck mechanism o Implement the some useful tools for other contributors o Design the testing process and build the testing framework 	
Implement a compiler.....	
Team Project (1 st author)	2016 winter
GitHub: https://github.com/laihaotao/COMP6421	
<ul style="list-style-type: none"> o Implement a lexical analyzer o Implement a syntactic analyzer o Implement a semantic analyzer o Implement a code generator o Combine all of them into a completed compiler 	
A kind of weeding robot based on computer vision.....	
Individual Project	2016.03 – 2016.06
<ul style="list-style-type: none"> o Outstanding graduation project award (rank: 2 / 200) o Individually developed the whole system contains: Android, VB.net, Halcon, Network communication o Video link (YouTube) to show the project: https://www.youtube.com/watch?v=4Qx2GHp2ZII 	
Internet express system.....	
Team Project (1 st author)	2015.01 – 2016.06
<ul style="list-style-type: none"> o Received 10,000 CNY funding and a patent authorization (CN204576611U) o Team leader of the whole project o Created intelligence-based interactive system (both Android client and Java EE server) o Implemented communication protocol between android and STM32 which is the control unit 	
Obstacle avoidance remote control robot.....	
Individual Project	2015.09 – 2016.06
<ul style="list-style-type: none"> o Using RS485 communication protocol to organize the sensor network o Using Visual Basic for master computer's UI and control system o Used three casters for implementing moving system o Design obstacle avoidance algorithm 	
Special projects for blind and disable children.....	
Team Project (2 nd author), funded by Guangzhou Education Bureau	2014.09 – 2015.06
<u>Entertainment based system (dancing mat) for blind children</u>	
<ul style="list-style-type: none"> o Developed using STM32, SD card, I2C communication protocol and DMA o Through investigative research done at the Guangzhou Blind Children School to better learn how to design communication for children's needs 	
<u>Disability assistant page reader</u>	
<ul style="list-style-type: none"> o 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 (1 st author)	2013.09 – 2014.06
<ul style="list-style-type: none"> o Developed (as 1st author) using Arduino, Bluetooth, android, and 3D printer o Received a 2nd place award in school project competition o An patent authorization (CN104102990A) 	