

JUNHAN ZHOU

For way more information about me, please visit: <https://users.ece.cmu.edu/~junhanz/>
(+1) - 412 - 443 - 1728 ◇ junhanz@andrew.cmu.edu ◇ hannypenny64@gmail.com

EDUCATION

Carnegie Mellon University, US *Jan. 2015 - Graduating in May. 2016*
Master of Science, Department of Electrical and Computer Eng.
Current **GPA** as of Spring 2016: **3.81/4.0**

Concordia University, Canada *Jan. 2014 - May 2014*
Non-Degree Seeking Exchange Student, Department of Electrical and Computer Eng.
Exchange fully funded by the *Chinese Scholarship Council* (CSC)(only 20000 each year in China)

Beihang University(Beijing Univ. of Aero. & Astro.), China *Sept. 2010 - June. 2014*
B.E. in Automation, Department of Pattern Recognition and Intelligent Control
School of Automation Science and Electrical Engineering
Major **GPA**:3.87/4.0, 91.79/100, Overall: 3.77/4.0, **Ranking**:4/204

WORK

Beijing Keyi Technology Co. Ltd., China *Aug. 2014 - Dec. 2014*
Core Embedded Engineer, in charge of Cellrobot Heart's control system

EXPERIENCE

Future Interfaces Group , Human Computer Interaction Institute May. 2015 - Present
Research Assistant Advisor: *Prof. Chris Harrison*

Paper accepted by CHI 2016:

- SkinTrack: Using the Body as Phase-Differential Electrical Waveguide for Continuous Finger Tracking on the Skin

CMU coursework Jan. 2015 - Present

- (15745 (S16))**Compiler Optimization**, Using LLVM middle end trying out various optimizations.
- (15897 (S16))**Parallel Computing**, Learning techniques for doing parallel computing and using the CMU PASL library to implement it out.
- (15605/410 (F15) B)**Operating Systems**, Written a kernel for the x86 IA32 environment with message passing abilities,a bare-bore game and a user thread library.
- (18643 (F15) A) **Reconfigurable logic**, familiar with the Zedboard and Vivado environment including HLS, used it to speedup the continuous skyline computation using the PL.
- (15650 (F15) A) **Algorithms and Advanced Data Structures**
- (18447 (S15) A) **Computer Architecture**, designed a register transfer (RT) implementation of a MIPS-like pipelined processor and corresponding c level cycle timing simulator.
- (15640/440 (S15) A) **Distributed Systems**, programmed RPC calls, local file-granularity caching and auto scaling out designs.
- (16720 (S15) A) **Computer Vision**, made a computer vision based system that can automatically extract the presenter from the background slides in the presence of the projector overlays.
- (10701 (S15) A-) **Machine Learning**, implemented several popular machine learning algorithm to tackle the *How much did it rain* competition on Kaggle.
- Online classes prior to arrival: **15213/15513 Computer Systems**, **18660 Numerical Methods**

Concordia sumobot capstone project Robots, embedded systems Jan. 2014 - May. 2014

- Implemented the whole system, including priority task switching, multi-sensor management etc.
- Made a servo-attached distance sensor for opponent locating.
- Front object tracking based on two distance sensors.
- Referee avoiding mechanisms.
- Dynamic power consumption control for best performance and battery life.

Intelligent Computing and Machine Learning Lab Sept. 2012 - Dec. 2013
Research Assistant Advisor: *Prof. Zengchang Qin*

- A Novel HCI Interface Based on **Computer Vision**
 - Team leader for the project.
 - Using CV techniques can make any surface a touchable interaction surface.
 - Provides support for hands or other distinguishable objects for interaction.
 - Developed a calibrating system which can locate and normalize the desired interacting surface.
 - Founded fully by the *National Undergraduate Training Programs for Innovation and Entrepreneurship* in China (only two programs were funded in our grade).

Beihang Automation Control Club Robots, embedded systems Sept. 2010 - Dec. 2013
Core member Advisor: *Prof. Shaoping Wang*

- A Metamorphosis Multipurpose Robot
 - Developed a basic multitask system for the onboard stm32 microprocessor with μ c-os in mind, handling all the onboard peripherals and communicating with the PC using zigbee.
 - Programmed the computer UI using *C#* which can remotely control and display feedbacks from the robot, communicating using self-defined systematic protocol with CRC.
 - Won first prize in *Fengru Cup* (largest competition in Beihang which gives entrance to grad. school).

HONORS AND AWARDS

- Honorable Mention, Interdisciplinary Contest in Modeling (ICM), 2013
- 2nd prize, Beijing College-student Electronics Design Contest (TI Cup), 2012
- Scholarships for Academic Perf.(x3), S.&T. Contest(x2), and Academic Contest(x2), Beihang University
- Honorable Undergraduate, Beihang University (top 2%), 2011
- Outstanding Award, Beijing Challenge Cup, 2013
- National College Student awards for Physics and English competitions (both two times 2011 - 2013)

SKILLS

Coding: C/C#, Java, VB(.net), Matlab, Assembly(MIPS, x86), Verilog

MCU used: 8051 series, AVR series, MSP430 series, STM32 series

Misc: Used Asp.net for dynamic web pages, can use L^AT_EX for writing

EXTRA-CURRICULAR ACTIVITIES

Core member of Beihang Automation Club Sept. 2010 - Dec. 2013

- Give lectures about C programming, microprocessor usage and digital circuit design techniques to our department's freshmen and sophomore.
- Organize our department's electrical designing contests, including coming up with the topic, getting all the material needed, training participants and holding the competition.