Jiachen Li

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EDUCATION

Beijing University of Posts and Telecommunications (BUPT), Beijing Sept 2015 – Jul 2019

- Bachelor of Engineering in Electronic Information Science and Technology
- **Major GPA: 90/100 (3.77/4.0)**, Overall GPA: 87.08/100 (3.6/4.0), Second year GPA: 3.8/4.0
- Rank: 12/113 (Top 3 in female)
  - **Core Courses**: Electric Circuit Aided Design and Simulation(MATLAB) 96, Advanced Mathematics A 93, Fundamentals of Circuit Analysis 91, Electronic and Circuit Foundation 95, Signals and systems 96, Digital Circuits and Logic Design 92, Electromagnetic Fields and Waves 96, High Frequency Circuits 93.

University of California, Berkeley Jan 2018 – May 2018

- CS 61C Great Ideas in Computer Architecture (Machine Structures) Prof. John Wawrzynek, Prof. Nicholas Weaver
  INFO 265 Interface Aesthetics Prof. Kimiko Ryokai
  IEOR 170 Industrial Design and Human Factors Prof. Carisa Harris Adamson
  EL ENG X436.2-013 Java: Discovering Its Power Prof. Carl Limsico

PUBLICATION

- **Jiachen Li**, Ying Sun, Yiwen Wei, Haibin Yan. Video-based Parent-Child Relationship Prediction, *IEEE VCIP, 2018.*

RESEARCH EXPERIENCE

Video-based Parent-Child Relationship Prediction (C++, Matlab) Jul 2017 – Jul 2018

Advisor: Prof. Haibin YAN, School of Automation, BUPT

- Built Familyship Face Videos in the Wild (FFVW), a novel video-based face recognition database with blood relationship labels; parsed video data by family of father, mother and children from raw data with tree-structure
- Proposed an advanced process of face recognition for blood relationship, including extracting key frame, face detection, face alignment and feature recognition using convolutional neural network (CNN).
- Used 60% of dataset for training, 20% for validation, and 20% for testing, and improved the classification accuracy from 83.06% to 89.42%.
- Conducted sensitivity analysis for video condition (e.g. different intensity of light) and algorithm settings.

Heterotypic Unintentional Touch Detection (Python, Matlab) Jul 2018 – present

Advisor: Prof. Chun YU, Department of Computer Science and Technology, Tsinghua University

- Designed unintentional touch detection algorithm based on 125Hz capacitive sensing signal on phone.
- Used flood-fill algorithm and ellipse fitting techniques to detect touch, and recorded touch count and area.
- Extracted temporal sequences of the max-capacitive point in every core area; performed FFT analysis and generated the frequency spectrum; discovered disparity of spectrum distribution for intentional and unintentional touches.
- Evaluated our algorithm by both simulation and experiment, and achieved XX accuracy.

COURSE PROJECT

Stress App Design (Illustrator, Indesign) Feb 2018 – Mar 2018

Advisor: Prof. Kimiko Ryokai, School of Information, UCB

- Designed UI and wearable for an app that detects the stress level of people and helps them release stress.
- Used different features such as layout, weight, typography and color to distinguish two stress levels: normal and stressed situation.
- Used waveform with timeline to record the stress level of a person in one day; allowed users to add spots to record special events for waveform fluctuations.
- Improved the usability of buttons on smart phone based on both heuristic evaluation and usability testing.

A Self-Balance Car (VHDL, soldering, Breadboard) Sep 2017 – Oct 2017

Advisor: Prof. Yongmei ZHANG, School of Electronic, BUPT

- Designed, fabricated and soldered a two-wheeled self-balance car which behaved well in keeping balance, moving forward, turning left/right and stopping.
- Adjusted the leaning angle offset per second, PID parameters (KPZ, KIZ, KDZ) and speed in order to keep balance or move forward without falling to the ground.

- Proposed and implemented a novel algorithm for turning left and right; let one wheel move forward and the other backward to avoid risk of falling; changed deviation angle smoothly for 90-degree turns to allow adjustment.

Conference Communication Tools for Multiple People (Java) May 2017 – Jun 2017

Advisor: Prof. Qifan WU, Department of Computer, BUPT

- Accomplished a java application for multiple people to chat and meet.
- Implemented the functionalities based on java and TCP Socket.
- In order to communicate simultaneously, simulated multiple IP & interfaces and built server & multiple clients during testing.

IOS-Health Calculator (ios obj-c) Apr 2017 – May 2017

Advisor: Prof. Dafa PAN, Department of Computer, BUPT

- Accomplished a multiple screen iOS calculator to count BMI, calculated BF% and provided health instruction with graphical interfaces.
- Based on obj-c, used ios platform (pure coding mode), and realized functions including multiple page visualization, and jumping and returning pages; the calculator exhibits a good error-tolerate rate.

Race Car Game (unity) Apr 2017 – May 2017

Advisor: Prof. Dafa PAN, Department of Computer, BUPT

- Accomplished functionalities including controlling game direction and speed by key 'WSAD' based on the official demo, also with well-designed wonderful terrain, skybox and interactive scene.

HONORS & AWARDS

2016-2017 First-Class Scholarship	Oct 2017
Outstanding Peer Tutor (10/120)	Jun 2017
Outstanding Student (5/120)	Jan 2017
'Our Classroom' Wall Design Competition: First Prize (1/400)	Jun 2016
'Rising Stars' English Speech Competition: Third Prize (5/300)	Apr 2016
'Rising Stars' English Drama Competition: Third Prize (5/50)	Apr 2016

OTHER SKILLS

Computer Languages: C/C++, HTML, java & JSP, Matlab, python, ios obj-c & swift, unity.

Circuit and Signal: VHDL, Logisim, Multisim, ADS Schemetic, Synopsys, Quartus II

Design: Photoshop, Indesign Illustrator, Fusion360

English: TOEFL iBT 107 (Reading 27, Listening 28, Speaking 25, Writing 27)
GRE Verbal 154, Quantitative 170, Analytical Writing 3.0

Interest: Photography, Drawing, Music, Stray dogs and cats rescue, Travelling