

# BINGJIAN HUANG

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Department of Computer Science and Technology, Tsinghua University, Beijing, China, 100084

## EDUCATION

### B.Eng Computer Science and Technology

2016-2020

*Tsinghua University, Beijing, China*

#### Outstanding Courses

computer science and career design: 99

Linear Algebra(1)(2): 92

Fundamentals of Programming: 96

Human Computer Interaction Theory and Technology: 89

Next Generation Internet: 95

Probability and Statistics: 90

Foundation of Object-Oriented Programming: 93

### Summer Session Program — GPA 4.00/4.00

2018.7-2018.8

*University of California, Berkeley, Berkeley, CA*

#### Outstanding Courses

Digital Humanity and Archival Design: A+

Public Speaking and Presentation Skills: A

## PAPERS

*Yiqin Lu, Bingjian Huang, Chun Yu, Guanhong Liu, Yuanchun Shi*

### Designing and Evaluating Hand-to-Hand Gestures with Dual Commodity Wrist-Worn Devices

*submission to UBICOMP 2019 (major revision)*

*Yizheng Gu, Chun Yu, Zhipeng Li, Bingjian Huang, Chengchi Zhou, Weiqi Li, Zeyang Zhang, Yuanchun Shi*

### TeleCP: A 3D Telepresence Software Framework Supporting High-Level Co-Presence

*in preparation for submission to UBICOMP 2019*

## RESEARCH EXPERIENCE

### Laboratory of Pervasive Computing

2018.3-2018.9

*Research Assistant, Advisor: Prof. Yuanchun Shi, Prof. Chun Yu*

- developed a 3D Telepresence software framework aiming to reach high co-presence.
- Used CUDA to implement parallel algorithms such as TSDF and Marching Cubes.
- Conducted user experiments.

### Laboratory of Pervasive Computing

2018.10-Now

*Research Assistant, Advisor: Prof. Yuanchun Shi, Prof. Chun Yu*

- Conducting research on hand gestures design space exploration.
- Implementing motion sync algorithms to detect hand motion and gestures.

## SELECTED COURSE PROJECTS

### Air-Typing Prototype design and User Study

2018.9-Now

*Theories and Technologies of Human Computer Interaction*

- Designing new typing input methods without keyboards
- Creating new algorithm to detect hand gestures and movements using Leap Motion
- Conducting user study to test typing accuracy and speed

### Android News and Information Content Platform

2018.8-2018.9

*Java Program Design and Training*

- Implemented an Android App based on Android Studio
- Connected Client App with Server System using C-S model and HTTP communication
- Applied MySQL Database to enable news storage and search

### Smart Chinese Pinyin Recognition & Hand-write Number Recognition

2018.3-2018.6

*Introduction to Artificial Intelligence*

- Converted Chinese Pinyin sequences to characters based on Bayes Theorem, achieved accuracy of 80%
- Recognized hand-write number using concurrent neural network(CNN), achieved accuracy of 99.2%

## Progressive Photon Mapping(PPM) Rendering Algorithm

2018.3-2018.6

*Fundamentals of Computer Graphics*

- Rendered images of virtual 3D space using rendering algorithms such as Ray Tracing and Progressive Photon Mapping

### SKILLS

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**Programming Languages:** C++/Python/Java/Node.js

**Programming Tools:** MATLAB/Visual Studio/Qt/CUDA/PyTorch/Android Studio

**Languages:** English(TOFEL 111, GRE 329+3.5)

### RESEARCH INTERESTS

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**Human-Computer Interaction**, Special interest in VR/AR study and future user interface

**Ubiquitous Computing**, Special interest in wearable devices interaction

### HONORS AND AWARDS

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**SOHU Scholarship for Academic Excellence(Top 10%)**, Tsinghua University

*September, 2017*

**2nd Prize**, National Olympiad in Informatics in Provinces(NOIP)

*November, 2014*