

BINGJIAN HUANG

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

EDUCATION

B.Eng Computer Science and Technology — GPA 3.68/4.00 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	Computer Architecture: 96

Summer Session Program — GPA 4.00/4.00 2018.7-2018.8

University of California, Berkeley, Berkeley, CA, United States

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

Research Assistant 2018.3-2018.9

Tsinghua Pervasive Computing Group, 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.

Research Assistant 2018.10-Now

Tsinghua Pervasive Computing Group, 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.

Visiting Scholar and Research Intern 2018.10-Now

Interaction Ecologies, School of Information, University of Michigan, Advisor: Prof. Mark W. Newman

- Research on in-situ low-burden self-reporting tools.
- Developing smartphone-smartwatch combined Android Application to investigate different design concepts.
- Conducting user studies about scenarios and techniques with User Enactment Method.

SELECTED COURSE PROJECTS

Tsinghua News Search Engine System 2019.3-2019.6

Fundamentals of Search Engine Technology

- Using Heritrix to crawl large-scale news (12G webpages and documents) from Tsinghua News Websites.
- Building all-stack web service with Apache Tomcat to provide efficient Tsinghua news search service.
- Sending HTTP request to retrieve real-time data from Elastic Search ranking system built by Chaojun Xiao (project collaborator)

Air-Typing Prototype design and User Study 2018.9-2019.1

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

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

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

Ubiquitous Computing, Special interest in wearable devices interaction

HONORS AND AWARDS

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

September, 2017

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

November, 2014