ZHUOHAO ZHANG

University of Illinois at Urbana-Champaign, USA

+1(217)979-6769 | e: zhuohao4@illinois.edu | website: http://www.zhuohaozhang.com

EDUCATION

University of Illinois at Urbana-Champaign   Urbana-Champaign, USA
M.S. in Computer Science   Aug. 2019 – May. 2021 (Expected)

Zhejiang University   Hangzhou, China
B.Eng. in Computer Science and Technology (**with Honors**) GPA: 3.88/4, Rank: Top 5% of 181   Sept. 2015 – Jun. 2019

RESEARCH EXPERIENCE

Cornell University (Enhancing Ability Lab, Cornell Tech)   New York City, USA
Research Assistant to Prof. Shiri Azenkot   Oct. 2017 – Dec. 2018
Design Interactions for 3D Printed Models for Blind People
- Published two papers at top conferences (ACM CHI 2019 & ACM ASSETS 2018)
- Designed an iOS application "Talkit" to augment 3D models for people with visual impairments, which had been deployed in use at several special education schools. Project released at https://www.interactiveprintedmodels.com/
- Used OpenCV based algorithms to detect 3D models and hand gestures; Used native iOS to support speech recognition and text-to-speech; Based on the model's position and the user's input, Talkit++ speaks textual information, plays audio recordings, and displays visual animations for blind people

University of Illinois at Urbana-Champaign (Data Driven Design Group)   Urbana-Champaign, USA
Research Assistant to Prof. Ranjitha Kumar   Aug. 2019 – Now
Understanding the Efficiency of Emoji Sequences Using Information Theory
- Developing an iOS application "Opico" released in App Store, a social media mobile app of more than 1000 users that allows users to create and share reactions through Emoji
- Use information theory to extract information encoded in emoji sequences and Empirically measure properties from emoji information channel

SELECTED PROJECTS

GPK: An Efficient Input Method Using Keyboard (ACM CHI 2019 First Author)
- Designed a universal plugin to support typing special symbols on keyboards using natural gliding
- Implemented unique principles and algorithms similar to word2vec and K-means to process user's input sequence, and used statistical models and pattern recognition algorithms to recognize symbols

Virtual Reality based Urban Visual Data Analytics System (Bachelor's Thesis)
- Designed a VR application in HTC Vive using 3D data of housing in Manhattan, which supports visual data analytics and scalable interactions
- Used space partition, cluster analysis and data visualization techniques to preprocess 3D data points, and enabled immersive wandering experiences in a city-level

CPU from Scratch (Multiple Coursework)
- Designed CPU and hardware system including Single-Cycle, Multi-Cycle, Pipeline CPU, and System-on-Chips
- Further implemented applications like 2D games and mini-shell based on the designed CPU

Mini-series Projects (Coursework)
- **MiniSQL**: A simple local relational database implementation; Supporting crud functions and dynamic multilevel indexing using B+ tree
- **MiniAlpha-Go**: A board game AI using Monte-Carlo-Tree-Search combined with a Convolutional Neural Network

SELECTED AWARDS AND HONORS

- First-class Scholarship (top 3% or 5% in ~850 students)   2016&2017&2018
- The Outstanding Student Title (top 3% in ~850 students)   2016
- ACM CHI Student Research Competition, Second Prize   2019

SKILLS

- iOS Development, AR/VR frameworks, Unity
- C#, C/C++, Java, Python, JavaScript, HTML, CSS, D3.js, SQL, VHDL
- Machine Learning, Information Retrieval, Human-centered AI, Optimization Algorithms