ZHUOHAO ZHANG

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EDUCATION

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

Zhejiang University — Hangzhou, China
B.Eng in Computer Science (**with Honors**), GPA: 3.88/4, Major: 3.93/4, Rank: Top 5% of 181 — Sept. 2015 – Jun. 2019

RESEARCH EXPERIENCE

University of Illinois at Urbana-Champaign (Data Driven Design Group) — Urbana, IL
Research Assistant, Advisor: Prof. Ranjitha Kumar — Aug. 2019 – Now
Understanding the Efficiency of Emoji Sequences Using Information Theory

- Currently heading a group developing and maintaining an iOS application "Opico" released in App Store, a social media mobile app of more than 1000 users allowing users to create and share reactions through Emoji
- Conducted information theory to extract information encoded in emoji sequences and empirically measure properties from emoji information channel

Cornell University (Enhancing Ability Lab, Cornell Tech) — New York City, USA
Research Intern, Mentor: 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 fabricated 3D models for people with visual impairments; **Deployed in real use at several special education schools**; Project released at: https://www.interactiveprintedmodels.com
- Applied OpenCV based algorithms to detect 3D models and hand gestures; Used native iOS to enable speech recognition and text-to-speech
- Based on 3D model's position and user's input, Talkit++ speaks textual information, plays audio recordings, and displays visual animations for blind people

PROJECTS HIGHLIGHTS

GPK: An Efficient Input Method Using Keyboard (ACM CHI 2019 First Author and SRC Winner)

- Headed the design of 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 Visual Data Analytics (Bachelor's Thesis)

- Devised a VR application in HTC Vive using 3D urban data of housing in Manhattan; Integrated visual data analytics and scalable interactions
- Adapted space partition, cluster analysis and data visualization techniques to preprocess 3D data points, and enabled immersive wandering experiences in a city-level

Computer System Integration (Multiple Coursework)

- Assembled CPU and hardware system including Single-Cycle, Multi-Cycle, Pipeline CPU, and System-on-Chips
- Further implemented applications of 2D games and mini-shell based on an integrated hardware system

Mini-series Projects (Coursework)

- **MiniSQL**: A simple local relational database implementation; Supported crud functions and dynamic multilevel indexing based on B+ tree
- **MiniAlpha-Go**: A board game AI using Monte-Carlo-Tree-Search combined with a Convolutional Neural Network

HONORS

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

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