

Shuchang Xu

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EDUCATION

Tsinghua University Beijing, CN
M.S. in Computer Science (3.77/4.0) Sep 2018 - Jun 2021
• Coursework: HCI Techs (3.6), Computer Graphics (4.0), Machine Learning (4.0), Big Data Analysis (4.0)
B.Eng. in Electrical Engineering | B.A. in Digital Art Design (91.2/100) Sep 2014-Jun 2018
• Coursework: Data Structures (92), C++ Programming (91), Probability and Statistics (97)

PROFESSIONAL EXPERIENCE

Xiaomi Corporation Beijing, CN
Product Manager for a Smart Home App Aug 2021 - Jun 2023
• Responsible for designing home automation products, ensuring good user experience
• Design quantitative evaluation criteria to assess the user experience of products, analyze user data to identify key issues, and provide plausible solutions
ByteDance Shanghai, CN
AR Interaction Engineer Intern Jun 2020 - Aug 2020
• Designed and developed four AR interactive games utilizing the perception capabilities of smartphone cameras, including gesture recognition, pose estimation, face reconstruction, SLAM, etc.

RESEARCH EXPERIENCE

Pervasive Computing Lab, Tsinghua University Beijing, CN
Navigation Techs for Visually Impaired People (UbiComp 20 & 21 | CHI 21) Feb 2019 - Jun 2021
• Conducted user interviews and contextual observations to identify the core pain points of visually impaired users during travel and extracted corresponding design guidelines
• Proposed three interaction schemes: shoulder vibration + auditory interaction, handheld vibration interaction, and light-guided interaction, and integrated them into three wearable devices
• Established metrics to evaluate the performance of navigation systems, designed user experiments to evaluate the guiding performance of the three schemes, and summarized their applicable conditions
Accurate and Low-Latency Sense of Touch Contact on Any Surface (UIST 19) Jan 2019 - Jun 2019
• Proposed using a finger-worn IMU sensor to detect touch contact with high accuracy and low latency
• Responsible for hardware experimental platform development

PROJECTS

Multiplayer Mixed Reality Game based on HoloLens Oct 2017 - Dec 2017
• Leveraged the interaction capabilities (voice, gaze, gesture) of HoloLens v1 to ensure natural user experience
• Developed the game with Unity (gameplay, physical system, multi-player synchronization, visual effects)
Phone-Based Augmented Reality Navigation System Jan 2018 - Jun 2018
• Designed and developed an augmented reality navigation system (iOS ARKit, Mapbox API) that overlays routes on the real world to provide intuitive route guidance for users
Educational Game to Facilitate English Learning for Kids Feb 2017 - Jun 2017
• Designed a game to help English learning for kids through adventures, and developed using Unity

SKILLS

- **HCI Research:** experience in AR/VR interaction; good in user study design and data analysis (Python/SPSS)
- **Game Development:** skilled with Unity (C#), rendering development (Open GL shader), 3D modeling (Maya)
- **Software Development:** Unity (C#), iOS (Objective-C), Android (Java), C++, React Native
- **Hardware Development:** OptiTrack motion capture, embedded electronics, Bluetooth communication.

PUBLICATIONS

- [1] [Virtual Paving: Rendering a Smooth Path for People with Visual Impairment](#) (UbiComp 20', 1st Author)
- [2] [LightGuide: Directing Visually Impaired People along a Path Using Light Cues](#) (UbiComp 21', 1st Author)
- [3] [Tactile Compass: Enabling Visually Impaired People to Follow a Path](#) (CHI 21', 5th Author)
- [4] [Accurate and Low-Latency Sensing of Touch Contact on Any Surface](#) (UIST 19', 5th Author)