Yixiao Kang

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EDUCATION

University of California, Berkeley, US 08/2023 – 05/2024
- Master of Engineering, Electrical Engineering and Computer Sciences | Berkeley Fung Excellent Award **(top 5%)**

Shanghai Jiao Tong University (SJTU), China 09/2018 - 06/2023
- Bachelor of Engineering in Software Engineering, GPA: **4.0/4.0** (**top 1%**), Principle's Award, Government Scholarship

SKILLS

Domains: Data Analytics, TCP/IP, Database, Computer Vision, LLM, NLP, Generative AI, ML, SLAM, Unix/Linux
Programming Languages: Python, C, C++, C#, MATLAB, Java, JavaScript, HTML, Swift, SQL, CSS
Tools: TensorFlow, PyTorch, OpenCV, Scikit-learn, Colab, CUDA, Docker, MySQL, SciPy, Hadoop, Git, Hugging Face

WORK EXPERIENCE

TikTok | Machine Learning Intern | *AI, Deep Learning, LLM, CV, Audio* 04/2023 – 08/2023
- Formulated an algorithm achieving **85.3%** precision for 3D semantic **segmentation** and material recognition
- Developed an iOS app to capture RGBD datasets and a tool for 3D indoor triangular mesh reconstruction using Open3D
- Employed the Meta OVSeg and Segment Anything models to extract object labels and acoustic material data

Tencent, Ltd | Machine Learning Intern | *Machine Learning, Database, Recommendation* 01/2022 - 06/2022
- Engineered an ecosystem simulation tool that helps scene modelers to generate vegetation in large areas, which increased the modelers' efficiency by **20X** and was applied in Tencent's new game UNDAWN
- Utilized convolutional neural networks (**CNN**) to simulate real-world symbiotic plant cluster data

PROJECTS

ChromoFiber **MIT Computer Science and Artificial Intelligence Lab, Prof. Stefanie Mueller**, 04/2022 – present
- Innovated a reprogrammable multi-color fiber with localized color change capabilities for interactive wearable garments
- Aligned sketch in the design tool with fibers via **mathematical modeling**; Coordinate communication using **TCP/IP**

Simultaneous Tracking, Tagging, and Mapping | *CV, SLAM* **SJTU**, **Prof. Chaoping Chen**, 11/2019 - 01/2021
- Proposed 3D AR navigation, mapping, and target detection framework to tackle the simultaneous localization and mapping (**SLAM**) challenges in computer vision, published a paper and present at ICDT 2021 as 1st author
- Developed an **object-tracking** algorithm with unsupervised neural networks, achieving **90.3%** precision
- Generated a real-time 3D map utilizing Delaunay triangulation on point cloud data sourced from a **LiDAR** scanner

Automatic Music Transcription | *PyTorch, Deep Learning, CNN* **NUS, Prof. Ye Wang,** 07/2022 - 12/2022
- Developed a CNN-based algorithm for automated music transcription through feature extraction and model optimization
- Boosted by **12.2%** accuracy over baseline on MIR-ST500 dataset and implemented music visualization using Unity

Ubiideas: Catalysing Thinking with AR Glasses| *NLP, Front-end* **NUS, Prof. Shengdong Zhao,** 07/2022 - 12/2022
- Created a smart glasses app to capture and visualize ubiquitous ideas, submitted a paper to CHI 2024 (under review)
- Architected an **NLP** solution converting audio inputs into structured data, **visualized** through the OpenAI API

PUBLICATIONS

- **Kang, Yixiao**, et al. "Tie Memories to E-souvenirs: Hybrid Tangible AR Souvenirs in the Museum." Adjunct Proceedings of the 35th Annual ACM Symposium on User Interface Software and Technology. 2022. (UIST 2022 Talk)
- **Kang, Yixiao**, et al. "6: Simultaneous Tracking, Tagging and Mapping for Augmented Reality." SID Symposium Digest of Technical Papers. Vol. 52. 2021. (ICDT 2021 Presentation)
- Yang, Xuanhui, **Yixiao Kang**, and Xubo Yang. "Retargeting Destinations of Passive Props for Enhancing Haptic Feedback in Virtual Reality." 2022 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW). IEEE, 2022.
- Zhu, Yunyi, Michael Wessely, **Yixiao Kang** and Stefanie Mueller. " ChromoWrap: Re-Programmable Flexible Contact Light " Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems. 2024.(Under Review)
- Zhu, Yunyi, Michael Wessely, **Yixiao Kang** and Stefanie Mueller. " Photochromic Reprogrammable Fiber " Adjunct Proceedings of the 36th Annual ACM Symposium on User Interface Software and Technology. 2023. (Under Review)