

Yaxuan (Karlie) LI

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Education

McGill University

MASTER IN ELECTRICAL & COMPUTER ENGINEERING (RESEARCH BASED)

- **Supervisor:** Prof. Jeremy Cooperstock

Montreal, Canada

Sep. 2019 - Dec. 2021

Shandong University

B.ENG. OF CONTROL SCIENCE AND ENGINEERING

Shandong, China

Sep. 2015 - Jun. 2019

Research Experience & Internships

Research Intern for Saliency Detection and Virtual Reality

CARNEGIE MELLON UNIVERSITY

- **Advisors:** Prof. David Lindlbauer
- Saliency detection algorithm with Machine Learning

United States

June. 2021 - Current

Research Intern for Pose Reconstruction and Recognition by Wearable Devices

CORNELL UNIVERSITY

- **Advisors:** Prof. Cheng Zhang
- Human pose reconstruction and activities classification by wearable devices using machine learning
- Facial expression and silent speech recognition by wearable devices

United States

May. 2020 - Current

Research Project for Visual, Audio and Tactile Multimodal Fusion Devices

MCGILL UNIVERSITY

- **Advisors:** Prof. Jeremy Cooperstock
- Audiovisual analysis and fusion algorithm for tactile mapping in Multimedia and develop application for 4D movie theater

Canada

Jan. 2020 - Current

Graduation Project for key point matching for 3D non-rigid shape

NATIONAL UNIVERSITY OF SINGAPORE

- **Advisors:** Prof. Lee Gim Hee
- 3D non-rigid shape key point matching by learning key points descriptors

Singapore

Jan. 2019 - Jun. 2019

Research Project for Unmanned Systems(UAV), Realtime 3D Maps Generation

NATIONAL UNIVERSITY OF SINGAPORE

- **Advisors:** Prof. Ben M. Chen, Dr. Shupeng Lai
- Onboard 3D Navigation System for UAVs in Unknown and Realistic Indoor Environments
- Migrated to GPU-based real mapping for motion execution, which significantly improved data processing speed
- Developed 3D Euclidean Signed Distance Fields for On-Board MAV Trajectory Generation and Planning

Singapore

Aug. 2018 - Dec. 2018

ECCV 2018 Workshop: Vision Meets Drone Challenge

THE 2018 EUROPEAN CONFERENCE ON COMPUTER VISION

- Workshop paper: VisDrone-SOT2018: The Vision Meets Drone Single-Object Tracking Challenge Results

Jul. 2018

Research Project for Event-Triggered Control for Uncertain Networked 2-D Discrete-Time Markov Jump Systems (MJS) with Partially Unknown Parameters

- **Advisors:** Prof. Rongni Yang

- Established an event-triggered control scheme for a 2-D discrete system with Roesser Model

China

Mar 2017 - Mar 2018

Publications

NeckFace: Continuously Tracking Full Facial Expressions on Neck-mounted Wearables

TUOCHAO CHEN*, YAXUAN LI*, SONGYUN TAO*, HYUNCHUL LIM, MOSE SAKASHITA, RUIDONG ZHANG, FRANCOIS

GUIMBRETIERE, CHENG ZHANG

May, 2021

- Proc. ACM Interact. Mob. Wearable Ubiquitous Technol., Vol. 5, No. 2, Article 58. Publication date: June 2021. (IMWUT/UbiComp)

Towards Context-aware Automatic Haptic Effect Generation for Home Theatre Environments

YAXUAN LI, YONGJAE YOO, ANTOINE WEILL--DUFLOS, JEREMY R. COOPERSTOCK

Sep, 2021

- ACM Symposium on Virtual Reality Software and Technology (VRST), 2021

Deep Learning in Human Activity Recognition With Wearable Sensors: A Review on Advances and Trends

SHIBO ZHANG*, YAXUAN LI*, SHEN ZHANG, FARZAD SHAHABI, STEPHEN XIA, YU DENG, NABIL ALSHURAF

Sep, 2021

- [Under review] Sensors, MDPI

Context-aware Automatic Haptic Effect Generation Algorithm for Improved Content Viewing Experiences

YAXUAN LI, YONGJAE YOO, ANTOINE WEILL--DUFLOS, JEREMY R. COOPERSTOCK

April, 2021

- 2021 IEEE World Haptics Conference (WHC), Work-in-progress paper, 2021

Safe navigation of quadrotors with jerk limited trajectory

SHUPENG LAI, MENGLU LAN, YAXUAN LI, BEN M. CHEN

Jan, 2019

- ISSN 2095-9184 (print); ISSN 2095-9230 (online); Frontiers of Information Technology & Electronic Engineering (SCI)

The Research on Real-time Monitoring Platform of Electric Propulsion System

YAN GAO, JING ZHANG, YAXUAN LI, JIN LIU

Mar, 2017

- Mar 2017, Vol. 36 Issue 3, p83-104. 4p. Research & Exploration in Laboratory. (included by America Chemical Abstracts, Science Abstracts and Peking University *Chinese Core Journal Summary*)

Industry Internships

Samasource: Quality AI Training Data, Annotation & Labeling

United States

MACHINE LEARNING INTERN

Jan. 2021 - May, 2021

- Development for image and video annotation platform

Jinan Suijun Electronic Technology Co. Ltd

China

ASSISTANT FOR HARDWARE ENGINEER

Jun. 2017 - Sep. 2017

- Microcontroller programming

Contests, Awards & Activities

Student Volunteer, The ACM International Conference on Mobile Human-Computer Interaction, MobileHCI, 2021

Sep. 2021

Student Volunteer, 2021 IEEE World Haptics Conference (WHC)

July, 2021

Student Volunteer, IMX '21: ACM International Conference on Interactive Media Experiences

Jun. 2021

Teaching Assistant, COMP 598-001 Topics in Computer Science: Data Science

Sep. 2020 - Dec. 2020

Provincial Award, National University Student Social Practice and Science Contest on Energy & Emission Reduction, Ministry of Education of the People's Republic of China

Jul. 2018

Honorable Mention Prize, MCM/ICM (Mathematical Contest in Modeling & Interdisciplinary Contest in Modeling) of America

Apr. 2018

1st Prize, Chinese Contemporary Undergraduate Mathematical Contest, China Society for Industrial and Applied Mathematics

Sep. 2017

Special Prize, Germany Innovation Lab Global Competition, German Academic Exchange Service, Shanghai Jiao Tong University, SAP Co.

Oct. 2016

Languages

- English [Professional]
- German [TestDaF 17/20 (C1 CEFR), Professional]
- Professional], Chinese [Native]

Programming

- Python, C, C++, MATLAB, Pytorch, Tensorflow, C#, Robotics Operating System (ROS), STC51, Arduino, Docker, Kubernetes, Unity