Qichen Fu

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Education

Carnegie Mellon University, School of Computer Science — Pittsburgh, PA
Master of Science in Robotics; GPA: 4.24/4.33 — *Aug. 2020 - Aug. 2022*
Teaching Assistant: Visual Learning and Recognition (2022), Computer Vision (2021)

University of Michigan - Ann Arbor, College of Engineering — Ann Arbor, MI
Bachelor of Science in Computer Science (dual degree with SJTU); GPA: 4.00/4.00 — *Aug. 2018 - Apr. 2020*
Instructional Aide: Computer Vision (2019, 2020)

Shanghai Jiao Tong University — Shanghai, China
Bachelor of Science in Electrical and Computer Engineering (dual degree with UM); GPA: 3.73/4.00 — *Sept. 2016 - Aug. 2020*

Work Experience

Apple Inc. — Seattle, WA
Machine Learning Engineer at AI/ML - Machine Intelligence Neural Design (MIND) — *Aug. 2022 - Present*

- Working on 3D Hand-Object Interaction and Neural Rendering

Research Experience

KLab, Carnegie Mellon University — Pittsburgh, PA
Research Assistant; ***Advisor:*** *Prof. Kris Kitani* — *Oct. 2020 - Aug. 2022*

- Led the video de-identification, state change object detection benchmark and challenge development of the EGO4D dataset
- Proposed a pixel-wise voting function with Relational Box Field to robustly detect active objects under occlusions
- Proposed a Dynamic Fusion Transformer framework for robust 3D hand pose estimation from videos

Fouhey AI Lab, University of Michigan — Ann Arbor, MI
Research Assistant; ***Advisor:*** *Prof. David Fouhey* — *May 2019 - May 2020*

- Developed an unsupervised object detection system predicting bounding boxes and articulation type for objects in video
- Built an artificial object detection system for image filtering, reaching an accuracy of 95.06% and an AUC score of 0.92

Fessler Research Group, University of Michigan — Ann Arbor, MI
Research Assistant; ***Advisor:*** *Prof. Jeffrey A. Fessler, Prof. Yuni Dewaraja* — *Oct. 2018 - May 2020*

- Proposed a complex-valued U-Net for MRI reconstruction, reducing parameters by 50% compared to the vanilla U-Net
- Developed a novel method integrating back-projection and 3D U-Net for PET reconstruction directly from measurements

Publications

Deformer: Dynamic Fusion Transformer for Robust Hand Pose Estimation — arXiv Preprint
Qichen Fu*, Xingyu Liu, Ran Xu, Juan Carlos Niebles, Kris M. Kitani*

Domain Adaptive Hand Keypoint and Pixel Localization in the Wild — ECCV 2022
Takehiko Ohkawa, Yu-Jhe Li, ***Qichen Fu****, Ryosuke Furuta, Kris M. Kitani, Yoichi Sato*

Sequential Voting with Relational Box Fields for Active Object Detection — CVPR 2022
Qichen Fu*, Xingyu Liu, Kris M. Kitani*

Ego4D: Around the World in 3,000 Hours of Egocentric Video — CVPR 2022
Kristen Grauman, ..., ***Qichen Fu****, ..., Jitendra Malik*

A Self-Supervised Deep Model for Focal Stacking — CLEO 2022
Weizhi Du,* ***Qichen Fu*****, Zhengyu Huang*

EgoAugment: CMU-KLAB Submission to the EPIC-Kitchens Action Recognition 2021 Challenge — EPIC @ CVPR 2021
Xuhua Huang, Ye Yuan, Xingyu Liu, ***Qichen Fu****, Kris M. Kitani*

Honors

University of Michigan: Jackson and Muriel Lum Scholarship, James B. Angell Scholar, University Honors

Shanghai Jiao Tong University: National Scholarship, Undergraduate Excellent Scholarship, MiYuan Public Welfare Scholarship