

TZE HO ELDEN TSE

<https://eldentse.github.io>

Intelligent Robotics Laboratory, School of Computer Science, University of Birmingham

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EDUCATION

University of Birmingham, United Kingdom

Feb. 2020 - present

Ph.D. student in Computer Science

Supervised by Dr. Hyung Jin Chang, Dr. Kwang In Kim and Prof. Aleš Leonardis

Research area: Hand and Object Interactions with Graph Neural Networks

Cranfield University, United Kingdom

Sept. 2018 - Jun. 2020

PGDip in Engineering Competence

Part of BAE Systems graduate scheme

University of Oxford, United Kingdom

Oct. 2014 - Jul. 2018

M.Eng in Engineering Science (First Class Honours, 78%)

Specialised in Information Engineering

WORK EXPERIENCE

Google, Canada

Nov. 2022 - Mar. 2023

Research Intern

- Topic: Multi-view interacting 3D hands reconstruction with graph neural networks
- Manager: Bardia Doosti, Danhang "Danny" Tang
- Team: Hand, Body and Faces under AR Perception

University of Birmingham, United Kingdom

Mar. 2022 - present

Research Assistant

- Collaboration with Dongguk University Machine Learning Lab.
- Project title: "*Graph Neural Network for Visual Recognition and Representation*"
- In this research, we are developing a deep semantic graph neural network based knowledge representation and learning framework for high-level vision tasks, such as hand-object pose estimation and representation.

BAE Systems, United Kingdom

Sept. 2018 - Jul. 2021

PLD Engineer

- Hardware sensor design for Eurofighter Typhoon (6 months)
- PLD verification for F-16 head-up-display (6months)
- AI R&D with Innovation and Growth Team (6 months)
- PLD verification for flight control computer (16 months)

PUBLICATIONS

Mutual Information-Based Temporal Difference Learning for Human Pose Estimation in Video

Runyang Feng, Yixing Gao, Xueqing Ma, **Tze Ho Elden Tse**, Hyung Jin Chang

IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2023)

S²Contact: Graph-based Network for 3D Hand-Object Contact Estimation with Semi-Supervised Learning

Tze Ho Elden Tse*, Zhongqun Zhang*, Kwang In Kim, Aleš Leonardis, Feng Zheng, Hyung Jin Chang

European Conference on Computer Vision (ECCV 2022)

Collaborative Learning for Hand and Object Reconstruction with Attention-guided Graph Convolution

Tze Ho Elden Tse, Kwang In Kim, Aleš Leonardis, Hyung Jin Chang
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2022)

TP-AE: Temporally Primed 6D Object Pose Tracking with Auto-Encoders

Linfang Zheng, Aleš Leonardis, **Tze Ho Elden Tse**, Nora Horanyi, Wei Zhang, Hua Chen, Hyung Jin Chang
The 39th IEEE Conference on Robotics and Automation (ICRA 2022)

No Need to Scream: Robust Sound-based Speaker Localisation in Challenging Scenarios

Tze Ho Elden Tse, D. De Martini and L. Marchegiani
The 11th International Conference on Social Robotics (ICSR 2019)

TEACHING

Teaching Assistant	[06/2022-09/2022] MSc projects
	[02/2022-07/2022] Computer Vision and Imaging
	[09/2021-07/2022] MSc Computer Science project
	[09/2021-01/2022] Programming for Data Science and AI

ACADEMIC SERVICES

Reviewer	CVPR 2023, 2022, 2021; ECCV 2022; ICML 2022; ICCV 2021; AAAI 2022; BMVC 2021; NeurIPS 2020
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INVITED TALKS

[09/2022]	Department of Computer Science & Engineering, Hong Kong University of Science and Technology (HKUST), Hong Kong
[10/2022]	6th International Workshop on Observing and Understands Hands in Action (HANDS@ECCV2022), Tel Aviv, Israel

AWARDS

2014-2018	College Scholarship for Outstanding Performance in Engineering Exams
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TECHNICAL STRENGTHS

Programming Languages	Python, C++, SystemVerilog, VHDL
Libraries	PyTorch, PyTorch Geometric, OpenCV