Sizhe Song

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EDUCATION

The Hong Kong University of Science and Technology   *Sept. 2021 – , Hong Kong*
- Master of Philosophy (MPhil) in Computer Science
- Supervisor: Shueng-Han Gary Chan

The Hong Kong University of Science and Technology   *Sept. 2017 – Jul. 2021, Hong Kong*
- Bachelor of Science (BSc) in Computer Science and General Mathematics
- CGA: 3.769 / 4.3, appeared on Dean's List in 4 out of 5 long semesters.

Purdue University   *Jan. 2020 – May. 2020, West Lafayette, IN, USA*
- One-semester exchange program.
- Coursework: Computer Security, Machine Learning, Abstract Algebra.

RESEARCH EXPERIENCES

Semi-Supervised Few-shot Atomic Action Detection   *May 2020 – Nov. 2020*
Available on arXiv. Authors: **Sizhe Song***, Xiaoyuan Ni* (equal contribution), Yu-Wing Tai, Chi Keung Tang.
HKUST Final Year Project supervised by Prof. Chi Keung Tang. [**arXiv Link**] [**Project Link**]
- Proposed a novel model for few-shot atomic action recognition, alleviated human annotation effort. Incorporated unsupervised learning for better feature extraction. Designed attention pooling and multi-head relation to enhance feature refinement and comparison.
- Personal Contribution: Participated in data processing and augmentation. Researched and designed the attention pooling module, implemented the model, and performed experiments on different atomic action datasets.

Localization by Surveillance Videos   *Jul. 2019 – Aug. 2019*
HKUST UROP project supervised by Prof. Shueng-Han Gary Chan.
- Built a system to recognize and track pedestrians in surveillance videos, aimed to predict crowds flow and provide localization. Learned to use basic object detection tools and coordinate transformation.

HKUST Canteens Visualization   *Jul. 2018 – Aug. 2018*
HKUST UROP project with another two students supervised by Prof. Huamin Qu.
- Built a webpage to visualize campus canteen population in three different styles, aimed to help users to choose canteen in rush hours. Was responsible for one of the three styles. Learned web programming skills.

WORK EXPERIENCES

Lab Course Helper   *Sept. 2019 – Dec. 2019, Hong Kong*
- Organization: HKUST, School of Engineering, CSE Department.
- Course: COMP2011 - Programming with C++.   ▪ Type: Part-time.
- Duty: Help the instructor to deliver lab courses, explain lab material to students, answer their questions, evaluate their lab work, report frequent mistakes to the instructor after class.

AWARDS & HONOURS

3rd Prize in The 6th Hong Kong University Student Innovation and Entrepreneurship Competition   *May. 2020*
- Held by HKNGCA Innovation & Entrepreneurship Centre.
- Worked in a team of four to produce a video-based security system.
- Utilized human identification and tracking to predict visualize real-time human density.

HKUST Study Abroad Sponsorship   *Jun. 2019*
- Offered by HKUST Study Abroad Office for Exchange Programs.

Dean's List Award   *Apr. 2019*
- Offered by School of Engineering, HKUST.
- Offered to students with TGA over 3.7 in two of the past three semesters.

First Year Full Admission Scholarship   *Sept. 2017*
- Offered by Undergraduate Recruitment and Admissions Office, HKUST.

SKILLS

Programming: Python, C/C++, Java, SQL, HTML, CSS, JavaScript.
Tools: PyTorch, OpenCV, LaTeX, Markdown, Unix, Git.
Languages: English (Good, GRE=157+170+4, TOEFL=113), Mandarin (Native).