Jinghuai ZHANG

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EDUCATION

Duke University, Durham, USA 09/2021-05/2023 (Expected)
Master of Science, Computer Science
CGPA: 4.0/4.0

City University of Hong Kong, Hong Kong, China 09/2016-06/2020
Bachelor of Science, Major in Computer Science
CGPA: 3.93/4.30 (Top 5%, 3.89/4.0 WES) Major GPA: 4.09/4.30
Selected Coursework: Advanced Programming, Data Structures, Algorithm, Internet Security and e-Commerce Protocols, Operating System, Discrete Mathematics, Applied Statistics for Sciences and Engineering, Database System, Computer Networks, Computer Vision for Interactivity (all A+), Final Year Project (the only A+)

Imperial College London, London, United Kingdom 07/2017-08/2017
Summer school, took "Principle of Finance", grade A

PUBLICATIONS AND CONFERENCES

1. Yicheng Liu*, **Jinghuai Zhang***, Liangji Fang, Qinhong Jiang, Bolei Zhou, (2021) "Multimodal Motion Prediction with Stacked Transformer", **CVPR 2021** (*co-first authors with equal contributions)
   - Propose mmTransformer, which is the first model using stacked transformers for trajectory proposals to aggregate multiple channels of contextual information and achieve multimodal prediction.
   - Design a novel region-based training strategy (RTS), which ensures that individual proposals of mmTransformer are able to capture specific mode features and therefore, perverse the multimodal nature of motion forecasting.

2. Yifan Zhang*, **Jinghuai Zhang***, Jindi Zhang, Jianping Wang, Kejie Lu, Jeff Hong, (2020) "A Novel Learning Framework for Sampling-Based Motion Planning in Autonomous Driving", **AAAI 2020 (Oral)** and a journal extension is accepted by **TIST-22** (*co-first authors with equal contributions)
   - Refine the automatic labeling strategy for trajectory data preprocessing,
   - Propose the first 2-stage model to improve the accuracy of prediction on drivers' intention,
   - Leverage CVAE to design a new sampling strategy for Sampling-based Motion Planning, which incorporates prediction results and leads to better performance in dynamic environment.

3. Zixuan Huang*, **Jinghuai Zhang***, Jing Liao (2019) "Style Mixer: Semantic-aware Multi-Style Transfer Network", **Pacific Graphics 2019** accepted by both conference and journal, (*co-first authors with equal contributions)
   - Propose the first Multi-style transfer framework to incorporate different styles in one result based on semantic information,
   - Design a patch-attention module for semantic correspondence, which broadens the form of Nonlocal attention module and enables controllability of receptive field,
   - Create a region-based multi-style fusion module for framework to assign different styles to their semantically related regions.

RESEARCH PROJECTS

- The backdoor attack against point cloud models. 09/2021-Present
  (under review)
- Certified robustness of point cloud models. 09/2021-Present
  (under review)
- Defense against adversarial attack in self-supervised learning. 01/2022-Present
  (under review)

AWARDS

- HKSAR Government Scholarship Fund Academic Award with 160000 HKD Scholarship in 2018-2019 and 2019-2020
- Hong Kong, China-Asia-Pacific Economic Cooperation Scholarship
- Hong Kong Computer Society Student Sponsorship 2020
- Department of Computer Science Outstanding Student Scholarships 2020-21
- The first class honor graduate from City University of Hong Kong
- AAAI-20 and Pacific Graphics 2019 student travel grant
- Dean's List
- Second Prize in Provincial Mathematical competition (2015) of Zhejiang Province

EXTRACURRICULAR ACTIVITIES

- External Secretary for Chinese Students Association of City University of Hong Kong 10/2016-10/2017
- Voluntary Teacher in Honghe, Yunnan Province, China, 07/2017-08/2017
- Voluntary teacher for disable children, City Youth Empowerment Program 09/2016-12/2016

TEACHING EXPERIENCE

Teaching Assistant: COMPSCI-230 Discrete Mathematics for Computer Science (Spring-22)

TECHNICAL SKILLS AND QUALIFICATIONS

Programming languages: Python, C++, Java, SHELL, Julia, SQL, Matlab, HTML
Standard Exams: GRE: 334 (verbal: 164 quantitative: 170), IELTS: 7.5 (minimum:6.5)