Deyao Zhu

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Research Interests

My research interests lie in Robot Learning. In particular, I am interested in leveraging large-scale datasets to improve robot performance. This includes offline reinforcement learning, foundation model in robot learning, motion forecasting, video & language understanding, and other related deep learning topics.

Education

King Abdullah University of Science and Technology — Thuwal, Saudi Arabia
PhD, *Computer Science* — *01/2020 – Now*
Topic in Reinforcement Learning and Motion Forecasting

Gottfried Wilhelm Leibniz Universität Hannover — Hanover, Germany
MSc, Electrical Engineering and Information Technology — *10/2016 – 04/2019*
Coursework in Robotics and Machine Learning

Tongji University — Shanghai, P.R. China
BEng, *Mechatronics* — *09/2012 – 09/2016*
Coursework in Automation and Control Theory

Publications

1. **Deyao Zhu**, Li Erran Li, Mohamed Elhoseiny. **Value Memory Graph: A Graph-Structured World Model for Offline Reinforcement Learning.** *arXiv:2206.04384, under review*
2. Abduallah Mohamed, **Deyao Zhu**, Warren Vu, Mohamed Elhoseiny, Christian Claudel**.** **Social-Implicit: Rethinking Trajectory Prediction Evaluation and The Effectiveness of Implicit Maximum Likelihood Estimation**. *European Conference on Computer Vision (ECCV) 2022*
3. Jun Chen, Aniket Agarwal, Sherif Abdelkarim, **Deyao Zhu**, Mohamed Elhoseiny. **RelTransformer: A Transformer-Based Long-Tail Visual Relationship Recognition.** *Conference on Computer Vision and Pattern Recognition (CVPR) 2022*
4. **Deyao Zhu**, Mohamed Zahran, Li Erran Li, Mohamed Elhoseiny. **Motion Forecasting with Unlikelihood Training in Continuous Space**. *Conference on Robot Learning (CoRL) 2021 (oral 6.5%)*
5. **Deyao Zhu**, Mohamed Zahran, Li Erran Li, Mohamed Elhoseiny. **HalentNet: Multimodal Trajectory Forecasting with Hallucinative Intents**. *International Conference on Learning Representations (ICLR) 2021*
6. **Deyao Zhu**, Marco Munderloh, Bodo Rosenhahn, Jörg Stückler. **Learning to Disentangle Latent Physical Factors for Video Prediction**. *German Conference on Pattern Recognition (GCPR) 2019*

Work History

King Abdullah University of Science and Technology Thuwal, Saudi Arabia
Teaching Assistant *01/2021 – Now*
CS 283 Deep Generative Model & CS 326 Low Resource Deep Learning

Max Planck Institute for Intelligent Systems Tübingen, Germany
Master Thesis Student *09/2018 – 04/2019*
Focused on video prediction and physics scene understanding

Bosch Center for Artificial Intelligence Renningen, Germany
Internship *03/2018 – 08/2018*
Focused on policy gradient methods in autonomous driving

Institut für Informationsverarbeitung, Uni Hannover Hanover, Germany
Research Assistant *06/2017 – 02/2018*
Focused on human pose estimation

Skills

Programming: PyTorch, TensorFlow, Python, Matlab, ROS, C++
Languages: English: Fluent German: Basic Hokkien: Native Mandarin: Native

Others

Third place in Habitat Rearrangement Challenge 2022
Reviewer in TPAMI, CoRL 2022, ECCV 2022, AAAI 2023, and CVPR 2023