PENG ZHENG

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Education

Aalto University   **2020 – 2023**
Master of Science in ICT Innovation (Visual Computing and Communication), Overall GPA score: 3.88/5   *Espoo, Finland*
- Special Assignment in CS (5)
- Master's Thesis (4)
- I&E Study Project (4)

University of Trento (UNITN)   **2019 – 2023**
Master of Science in ICT Innovation (Visual Computing and Communication), Overall GPA score: 27/30   *Trento, Italy*
- Advanced Computer Vision (30L)
- Computer Graphics (28)
- Multimedia Data Security (27)

Hebei Normal University (HeBTU)   **2015 – 2019**
Bachelor of Engineer in Software Engineering, Overall GPA rank: 2/98, score: 84.5/100   *Shijiazhuang, China*
- Advanced Mathematics (97)
- Discrete Mathematics (93)
- Python & Machine Learning (97)
- Linear Algebra (94)
- Probability & Statistics (94)
- Network Principle (96)

Research Interests
- Computer Vision
- Object Segmentation
- Visual-Language Model
- AI4Biology

Experience

Shanghai AI Lab   **Aug.2023 – present**
Research Intern, led by Prof. Wanli Ouyang   *Shanghai, China*
- Large Pre-trained Language Model for Protein.

Alibaba Group   **Feb.2023 – Aug.2023**
AIR Research Intern, supervised by Dr. Deng-Ping Fan & Dr. Dehong Gao   *Hangzhou, China*
- Highly accurate segmentation for high-resolution image segmentation.
- Visual Adapter for SAM.

Mohamed bin Zayed University of Artificial Intelligence (MBZUAI)   **Jan.2022 – Sep.2022**
Research Assistant, supervised by Prof. Huan Xiong & Prof. Jie Qin & Dr. Deng-Ping Fan   *Abu Dhabi, UAE*
- Co-Salient Object Detection with Contrastive Memory.
- Identity Aware Facial Sketch Synthesis.

Inception Institute of Artificial Intelligence (IIAI), G42   **Mar.2021 – Jan.2022**
Research Intern, supervised by Prof. Jie Qin & Dr. Deng-Ping Fan   *Abu Dhabi, UAE*
- Facial Sketch Synthesis.
- Co-Salient Object Detection with Group Collaboration.
- Person Search in An Anchor Free Style.
- Person Search with Context Information.

Computer Vision Lab, ETHZ   **May.2019 – Jan.2021**
Graduate Student, remotely supervised by Prof. Xiaogang Cheng   *Remote*
- Anomaly Detection for Fine Instruments.
- Video Motion Magnification.

Vision Perception and Cognition Lab, HIT   **Nov.2018 – Jun.2019**
Undergraduate Student, supervised by Prof. Wangmeng Zuo   *Harbin, China*
- Efficient Crowd Counting Models with SoTA Performance.

School of EECS, KTH   **Dec.2017 – April.2019**
Undergraduate Student, remotely supervised by Prof. Xiaogang Cheng   *Remote*
- Contact-less Thermal Comfort Detection for HVAC System.
- Visibility Detection in Foggy Highway.
- Vision-based Air Quality Estimation.
- Leaf Vein Extraction on the Swedish Rare Cypress Poplar.

Patents

Vein Extraction Algorithm for Improving Canny Operator Based on Window Dynamic Threshold
Peng Zheng, Xiaogang Cheng, Zhaohui Zhang
Publication Number CN109325498B, Application Date: 2018.07.26, Authorization Date: 2022.02.25., [Code]

Publications

GCoNet+: A Stronger Group Collaborative Co-Salient Object Detector
Peng Zheng, Huazhu Fu, Deng-Ping Fan, Qi Fan, Jie Qin, Yu-Wing Tai, Chi-Keung Tang, Luc Van Gool

*IEEE Transactions on Pattern Analysis and Machine Intelligence (**T-PAMI**) 2023*, [Code][Demo]

Efficient Person Search: An Anchor-Free Approach
Yichao Yan, Jinpeng Li, Jie Qin, **Peng Zheng**, Shengcai Liao, Xiaokang Yang

*International Journal of Computer Vision (**IJCV**) (2023): 1573-1405*, [Code]

Memory-aided Contrastive Consensus Learning for Co-Salient Object Detection
Peng Zheng, Jie Qin, Shuo Wang, Tianzhu Xiang, Huan Xiong

*AAAI Conference on Artificial Intelligence (**AAAI**), 2023*, [Code]

MovieNet-PS: A Large-Scale Person Search Dataset in the Wild
Jie Qin, **Peng Zheng**, Yichao Yan, Quan Rong, Xiaogang Cheng, Bingbing Ni

*IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP**), 2023*, [Code][Dataset]

Facial-sketch Synthesis: A New Challenge
Deng-Ping Fan, Ziling Huang, **Peng Zheng**, Hong Liu, Xuebin Qin, Luc Van Gool

*Machine Intelligence Research (**MIR**) 19.4 (2022): 257-287*, [Code][Dataset]

Bilateral Reference for High-Resolution Dichotomous Image Segmentation
Peng Zheng, Dehong Gao, Deng-Ping Fan, Li Liu, Jorma Laaksonen, Wanli Ouyang, Nicu Sebe

arXiv 2024, [Code]

Discriminative Consensus Mining with A Thousand Groups for More Accurate Co-Salient Object Detection
Peng Zheng

M.S. Thesis

Academic Services

Reviewer of Journals:
    IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI).
    International Journal of Computer Vision (IJCV).
    Pattern Recognition (PR).
    Computer Vision and Image Understanding (CVIU).
    The Visual Computer (TVCJ).
    Expert System With Applications (ESWA).
    ...

Reviewer of Conferences:
    The IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR), 2023, 2024.
    European Conference on Computer Vision (ECCV), 2024.
    AAAI Conference on Artificial Intelligence (AAAI), 2023, 2024.
    IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2024.
    ....

Awards

Non-EU Merit Nomination Scholarship from EIT Digital.
Outstanding undergraduate thesis.
Major scholarship for every year in undergraduate years.
National Mathematical Modeling Competition Award Provincial Second Prize.
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Skills

Programming: Python, MATLAB, PyTorch, Keras, OpenCV, *etc.*
Tools: LaTeX, Inkscape, Linux, Git *etc.*
Languages: Chinese (native), English (fluent, 2 years in Europe + 1.5 years in UAE).

About

Initialization: Luckily born in 1998.01.08, Yancheng City – a city makes hearts open.
Hobbies: Boating, Reading (Kafka, D.H. Lawrence, Camus), Starcraft, Go (Weiqi).
Aspiration: Scientist in Vision & AI, a Visioneer (Vision Pioneer) someday.
Traits: Tend to find novel and interesting things, both in daily life and research; love to share and help; hate falsification and mediocrity.