Yuanzheng Ci

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Education

Oct.2019 - present **Ph.D. in Engineering**, *EIE, The University of Sydney*, Sydney, Australia.
- Supervisor: Prof. Wanli Ouyang and Prof. Luping Zhou

Sep.2015 - Jun.2019 **B.E. in Software Engineering**, *ISE, Dalian University of Technology*, Dalian, China.
- Rank: Freshmen & Sophomore: **1/96**, Junior: **1/64**, Cumulative GPA: **4.43/5**
- Dual Degree: **B.A. in Japanese**

Research Interests

Foundation Models, Self-Supervised Learning, Neural Architecture Search, Controlled Image Synthesis

Publications

Under Review **UniHCP: A Unified Model for Human-Centric Perceptions**.
Yuanzheng Ci*, Yizhou Wang*, Meilin Chen, Shixiang Tang, Lei Bai, Feng Zhu, Rui Zhao, Fengwei Yu, Donglian Qi, Wanli Ouyang (* equal contribution)

Under Review **HumanBench: Towards General Human-centric Perception with Projector Assisted Pretraining**.
Shixiang Tang, Cheng Chen, Meilin Chen, Qingsong Xie, Yizhou Wang, **Yuanzheng Ci**, Lei Bai, Feng Zhu, Haiyang Yang, Li Yi, Rui Zhao, Wanli Ouyang

ECCV 2022 **Fast-MoCo: Boost Momentum-based Contrastive Learning with Combinatorial Patches**.
Yuanzheng Ci, Chen Lin, Lei Bai, Wanli Ouyang

ICCV 2021 **Evolving Search Space for Neural Architecture Search**.
Yuanzheng Ci, Chen Lin, Ming Sun, Boyu Chen, Hongwen Zhang, Wanli Ouyang

ACM MM 2018 **User-Guided Deep Anime Line Art Colorization with Conditional Adversarial Networks**.
Yuanzheng Ci, Xinzhu Ma, Zhihui Wang, Haojie Li, Zhongxuan Luo

Research Experience

Jul.2018 - present **SenseTime Group Limited** , Beijing, China.
Research Intern
- **Human-Centric Foundation Model**
  Built up codebase for large-scale multi-task pretraining with colleagues. Participated in constructing large-scale human-centric pretraining dataset. Proposed a unified model that handles a wide range of human-centric perceptions (ReID, pose estimation, human parsing, pedestrian detection, attribute prediction) in a simple feed-forward, end-to-end transformer model. The model shares 99.97% of its parameter across tasks/datasets, can handle all tasks simultaneously, and achieves new SOTAs on a wide range of benchmarks when jointly pretrained on 33 human-centric datasets and adapted to a specific downstream task. Two papers are under review.
- **Self-Supervised Learining**
  Proposed an efficient method for self-supervised learning that can achieve **74.7%** linear evaluation Top-1 accuracy on ImageNet with only 100 epochs of ImageNet pertaining, ResNet-50 backbone network, and negligible time overhead (on top of MoCo v3). Part of the proposed method is published on ECCV 2022.
- **Neural Architecture Search**
  Designed NAS codebase for FLOPs/parameter/latency constrained architecture search, also a contributor to the internal NAS toolchain and model zoo. Proposed a novel neural architecture search algorithm and search space that outperformed previous state-of-the-art methods. Produced 2 patents and published a paper on ICCV 2021.

Dec.2016 - Jun.2019 **DUT Media Lab**, *Dalian University of Technology*, Dalian, China.
Research Assistant
- Proposed a model and a dataset for accurate anime line art colorization. This model significantly improved the visual result over the previously proposed methods. Also had experience with deep non-uniform blind motion deblur and GAN-based single image super-resolution. One paper was accepted by ACM MM 2018.

Jul.2016 **College of Information Science & Engineering**, *Ritsumeikan University*, Kusatsu, Japan.
Short Term Exchange Program

Awards, Scholarships and Patents

Awards and Scholarships

Oct.2019 - Feb.2023 **Research Training Program Scholarship (International)**, *Department of Education*, Australian Government.

2021&22 **Postgraduate Research Support Scheme Scholarship**, *The University of Sydney*.

Jan.2019 **Outstanding Graduate of Liaoning Province (Top 3%)**, *The Educational Department of Liaoning Province*.

2016&17&18 **Learning Excellence Award (First Prize, Top 5%)**, *Dalian University of Technology*.

Dec.2018 **Lingshui Scholarship (Second Prize)**, *Dalian University of Technology*.

Nov.2018 **Excellence Award**, *International Entrepreneurship Contest for University Students*, Hyogo, Japan.

Patents

2020 **Evolving Search Space for Neural Architecture Search**, *Chinese Patent (Pending), ID: 202011273240.0*.
Yuanzheng Ci, Chen Lin, Wanli Ouyang, Ming Sun,

2019 **A Multi-Branch Approach for Resource Constrained Neural Architecture Search**, *Chinese Patent, ID: 201910457280.1*.
Yuanzheng Ci, Chen Lin, Wei Wu,

2018 **User-Guided Semantical Line Art Colorization**, *Chinese Patent, ID: 201810533325.4*.
Yuanzheng Ci, Haojie Li, Zhihui Wang and ZhongXuan Luo,

Skills

Programming Python(PyTorch, Numpy), LaTeX, Linux, C/C++

Languages English IELTS: 7.0 (L:8.0, R:8.5, W:6.0, S:6.0), Japanese JLPT N1: 150 (LK:44, R:60, L:46)