Haiwen Huang

Dedicated to developing safe, robust, and responsible AI technologies that enrich our world
+49 15252100386 | andrehuang0@gmail.com

Education

University of Tübingen, Tübingen, Germany **Jan. 2022 –**
PhD candidate in Computer Vision

- Autonomous Vision Group, Bosch Industry-on-Campus lab
- Supervisor: Andreas Geiger, Dan Zhang
- PhD topic: Open-world recognition in complex scenes

University of Oxford, Oxford, UK **Oct. 2020 – Sept. 2021**
Master of Science in Computer Science

- **Distinction**
- Dissertation: "On Representation Learning for Deterministic Uncertainty Estimation"
- Supervisor: Yarin Gal

Peking University, Beijing, China **Sept. 2015 – July 2019**
Bachelor of Science in Computational Mathematics

- Cumulative GPA: 3.73/4.00, Major GPA: 3.80/4.00
- **Outstanding Graduate of Beijing** (top 1% in the university)
- Advisor: Bin Dong

University of California, Los Angeles, USA **Sept. 2017 – Feb. 2018**
Exchange Student in Department of Statistics

- CSC Scholarship Recipient
- GPA: 4.0/4.0
- Advisor: Yingnian Wu, Songchun Zhu

Work Experience

Megvii Research, Beijing, China **July 2019 – Sept. 2020**

- **Research scientist in Face Recognition Team**
- Advisor: Xinyu Zhou
- Project: Billion-scale face recognition data annotation. Out-of-distribution detection for facial data.

Selected Publications

1. **Haiwen Huang,** Anpei Chen, Volodymyr Havrylov, Andreas Geiger, Dan Zang. ***"LoftUp: Learning a Coordinate-Based Feature Upsampler for Vision Foundation Models"*** Submitted to ICCV 2025.
    - A strong and lightweight feature upsampler which effectively acts as an out-of-the-box enhancement to VFMs, significantly outperforming all previous methods
2. **Haiwen Huang,** Songyou Peng, Dan Zhang, Andreas Geiger. "***Renovating Names in Open-Vocabulary Segmentation Benchmarks***" NeurIPS 2024
    - Rethink and renovate the names used in open-vocabulary segmentation tasks for better model training and evaluation.
3. **Haiwen Huang**, Andreas Geiger, and Dan Zhang. ***"GOOD: Exploring geometric cues for detecting objects in an open world."*** ICLR 2023
4. **Haiwen Huang**, Zhihan Li, Lulu Wang, Sishuo Chen, Xinyu Zhou, Bin Dong, ***"Feature Space Singularity for Out-of-distribution Detection."*** **(Best Paper Runner-Up)** Safe AI 2021.

5. **Haiwen Huang**, Chang Wang, and Bin Dong. ***"Nostalgic Adam: Weighting More of the Past Gradients when Designing the Adaptive Learning Rate."*** IJCAI 2019.

Highlights of Technical Skills

- **Machine Learning Frameworks:** Proficient with PyTorch, TensorFlow, NumPy, Scikit-learn, Hugging Face, Gradio, and more.
- **Computer Vision:** Experience in tasks including image classification, object detection, (interactive) segmentation, depth/normal estimation, video object segmentation, and object tracking.
- **Vision & Multimodal Models:** Familiar with state-of-the-art models such as Mask2Former, DINOv2, CLIP, SigCLIP, Stable Diffusion, Flux, among others, and with various LLM APIs such as GPT-4 and Claude for text & multimodal tasks.
- **Parameter-Efficient Fine-Tuning:** Skilled in techniques like LoRA variants, ControlNet, and T2I adapters for fine-tuning foundation models, including Stable Diffusion and DINOv2.
- **Data-Centric Model Evaluation & Development:** Contributed to projects involving data collection, augmentation, and synthesis, and evaluation of foundation models on various vision-language tasks such as VQA and open-voc segmentation, with a focus on robustness and explainability.

Selected Awards and Honors

Outstanding Graduate of Beijing. The highest honor for graduates in Beijing. Top 1% in university. 2019
Yang Fuqing & Wang Yangyuan Academician Scholarship.Top 1% in academic merit and potential. 2016