

Likun Cai

✉ cailikun007@gmail.com

☎ +86 130-2218-5192

🏠 <https://cailk.github.io/>

Education

Fudan University

Ph.D. student in Computer Science

- Voluntary withdrawal

Shanghai, China

Sep. 2020 – Oct. 2022

ShanghaiTech University

M.S. in Computer Science

- GPA: 3.57/4.0; Supervisor: Prof. Ning Cai

Shanghai, China

Sep. 2017 – Jul. 2020

Xidian University

B.E. in Space Information and Digital Technology

- GPA: 3.6/4.0; National Encouragement Scholarship

Shaanxi, China

Sep. 2013 – Jul. 2017

Research Interests

- Vision & language learning, unsupervised learning, zero-shot learning, information clustering, generative models, robustness, adversarial attacks
- Object detection, image segmentation
- Information theory

Industry experience

Research Intern with Yi Zhu and Mu Li

Shanghai, China

Amazon AI Lab

Dec. 2020 - Jul. 2022

- Investigated open vocabulary object detection models with multimodal information by extending CLIP to object-level representation.
- Built a new large-scale object detection dataset, termed BigDetection, leveraging data from existing datasets (LVIS, OpenImages, Object365) and using a pre-trained language model to merge the label space.
- Investigated pixel-level information clustering for unsupervised image segmentation inspired by self-information and kernel density estimation.

Research Intern with Gang Yu

Shanghai, China

Tencent GYLab

Apr. 2020 - Aug. 2020

- Investigated makeup transfer models with access to 3D information disentangled by a 3D face reconstruction model.
- Contributed to makeup transfer application on mobile devices by preprocessing face dataset and training tailored style-GAN models.

Publications

“BigDetection: A Large-scale Benchmark for Improved Object Detector Pre-training.” *CVPR Workshop on Vision Datasets Understanding. 2022.*

Likun Cai, Zhi Zhang, Yi Zhu, Li Zhang, Mu Li, and Xiangyang Xue.

[paper] [code]

“Utilizing Amari-Alpha Divergence to Stabilize the Training of Generative Adversarial Networks.” *Entropy*. 2020.

Likun Cai, Yanjie Chen, Ning Cai, Wei Cheng, and Hao Wang.
[paper] [code]

“Super-Resolution Coding Defense Against Adversarial Examples.” *International Conference on Multimedia Retrieval*. 2020.

Chen, Yanjie*, **Likun Cai***, Wei Cheng, and Hao Wang. (* indicates equal contributions.)
[paper]

Teaching Experience

Teaching Assistant in Digital Communication	ShanghaiTech University <i>Sep. 2019 - Dec. 2019</i>
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Teaching Assistant in Information Science and Technology	ShanghaiTech University <i>Feb. 2019 - Apr. 2019</i>
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Skills

Programming Languages: Proficient: Python; Familiar: Matlab, Java, C/C++

Operating Systems: Linux, MacOS, Windows

Other Skills: Git, Markdown, \LaTeX

Language: Chinese, English: IELTS - 7.0 (R: 7.5; W: 7.0; L: 6.5; S: 6.5)

References

Dr. Ning Cai,
Professor,
School of Information Science and Technology at ShanghaiTech University,
IEEE fellow,
ningcai@shanghaitech.edu.cn

Dr. Yanlin Geng,
Professor,
School of Telecommunication Engineering at Xidian University,
ylgeng@xidian.edu.cn

Dr. Kai Han,
Assistant Professor,
Department of Statistics and Actuarial Science at the University of Hong Kong,
kaihanx@hku.hk

Dr. Yi Zhu,
Senior Applied Scientist at Amazon AI Lab,
yzhu25@ucmerced.edu