

Fan Yue

Date of birth - 23th April 1995

Country of permanent residence - China

Summary: I am a Ph.D. student in the Computer Vision and Machine Learning Department of Max Planck Institute for Informatics, working with Prof. Dr. Bernt Schiele and Dr. Dengxin Dai. I am interested in learning representations with weak supervision. In particular, semi-supervised learning and applications to visual recognition and retrieval.

Fan Yue
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Education

2020 - 2024 (expected), Max Planck Institute for Informatics, Germany

PhD Candidate in Computer Science.

2017 - 2020, Saarland University, Germany

MSc. Computer Science - Final GPA: 1.2/1.0

Coursework:

- An implementation of Joint Training of a Convolutional Network and a Graphical Model for Human Pose Estimation. Open source at [github://joint-cnn-mrf](https://github.com/joint-cnn-mrf)
- Real-time object detection with MobileNet and YOLO
- Thesis: Analyzing the Dependency of ConvNets on Spatial Information.

2013 - 2017, Xidian University, Xi'an, China

BSc. Intelligent science and technology - Final GPA: 3.6/5.0

Research

Since 2020, Max Planck Institute for Informatics, Germany

PhD Candidate in Computer Science.

- **Project goal:** Representation learning with weak supervision.
- **Advisor:** Prof. Dr. Bernt Schiele, Dr. Dengxin Dai

June 2023 - November 2023, Google, Switzerland

Student Researcher

- **Project goal:** Development of a diffusion-based multi-task generalist for dense vision tasks
- **Advisors:** Dr. Yongqin Xian, Dr. Alexander Kolesnikov, Dr. Xiaohua Zhai, Prof. Federico Tombari

August 2018 - May 2019, Spoken Language Systems group, Saarland University

Research Assistant in SFB4 project.

- **Project goal:** Learning better natural language representations by leveraging external knowledge from vision and knowledge graphs.
- **Advisors:** Dr. Aditya Mogadala, Marius Mosbach, Prof. Dietrich Klakow

Projects

USB: A Unified Semi-supervised Learning Benchmark for Classification

USB (967+ stars and 136+ forks!) is a Pytorch-based Python package for Semi-Supervised Learning (SSL). It is easy-to-use/extend, affordable, and comprehensive for developing and evaluating SSL algorithms. USB provides the implementation of 14 SSL algorithms based on Consistency Regularization, and 15 tasks for evaluation from CV, NLP, and Audio domain.

Publications

Fan, Y., Dai, D., Kukleva, A., Schiele, B. SSB: Simple but Strong Baseline for Boosting Performance of Open-Set Semi-Supervised Learning. IEEE/CVF International Conference on Computer Vision, 2023.

Chen H., Tao R., **Fan, Y.**, Wang Y., Wang J., Schiele B., Xie X., Raj B., Savvides M. Softmatch: Addressing the quantity-quality trade-off in semi-supervised learning. The 11th International Conference on Learning Representations, 2023

Wang Y., Chen H., Heng Q., Hou W., **Fan Y.**, Wu Z., Wang J., Savvides M., Shinozaki T., Raj B., Schiele B., Xie X. Freematch: Self-adaptive thresholding for semi-supervised learning. The 11th International Conference on Learning Representations, 2023

Wang, Y.*, Chen, H.*, **Fan, Y.***, Sun, W., Tao, R., Hou, W. ... Zhang, Y. USB: A Unified Semi-supervised Learning Benchmark for Classification. (*=Equal contribution) Neural Information Processing Systems, 2022.

Fan, Y., Dai, D., Kukleva, A., Schiele, B. CoSSL: Co-Learning of Representation and Classifier for Imbalanced Semi-Supervised Learning. IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2022.

Fan, Y., Kukleva, A., Schiele, B. Revisiting Consistency Regularization for Semi-supervised Learning. International Journal of Computer Vision, 2022

Fan, Y., Xian, Y., Losch, M., Schiele, B. Analyzing the Dependency of ConvNets on Spatial Information. The German Conference on Pattern Recognition, 2020

Fan, Y., Wang, H., Wang, Z., Jiao, L., Schiele, B. Parameter-free spatial attention network for person re-identification. arXiv preprint 2018.

Teaching

Winter semester 2018/19, Saarland University

Teaching assistant in Neural Networks: Implementation & Application

Winter semester 2020/21 & 2021/22, Saarland University

Teaching assistant in Elements of Data Science and Artificial Intelligence

Skills

Programming

- Python
- Matlab

Scientific Computing

- Numpy/Scipy
- PyTorch
- TensorFlow/Keras
- Jax

Languages

- Mandarin (native)
- English (C1)
- German (B1)