Fei Pan

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Education

- **KAIST** — Daejeon, South Korea
  Ph.D. in Electrical Engineering; supervised by Prof. In So Kweon — *Mar 2018 - Present*
- **KAIST** — Daejeon, South Korea
  M.S. in Electrical Engineering; supervised by Prof. Chang D. Yoo — *Mar 2016 - Feb 2018*
- **Xidian University** — Xi'an, P.R. China
  B.S. in Telecommunication Engineering; GPA: 3.7/4.0 (top 1 among 43 students) — *Aug 2011 - Jul 2015*

Research Interests

My research interests lie in the general area of computer vision and machine learning, particularly in deep learning, transfer learning, and generative models, as well as their applications in semantic segmentation, person re-identification, and scene understanding tasks.

Publications

International Conferences

- Inkyu Shin, Sanghyun Woo, **Fei Pan**, In So Kweon. Two-phase Pseudo Label Densification for Self-training based Domain Adaptation. In *European Conference on Computer Vision (ECCV)*, 2020.
- **Fei Pan**, Inkyu Shin, Francois Rameau, Seokju Lee, In So Kweon. Unsupervised Intra-domain Adaptation for Semantic Segmentation through Self-Supervision. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2020. *(oral, accept rate < 3%)*
- Junsik Kim, Tae-Hyun Oh, Seokju Lee, **Fei Pan**, In So Kweon. Variational Prototyping-Encoder: One-Shot Learning with Prototypical Images. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2019.
- Sanghyuk Park, **Fei Pan**, Sunghun Kang, and Chang D. Yoo. Driver Drowsiness Detection System Based on Feature Representation Learning Using Various Deep Networks. In *The Asian Conference on Computer Vision (ACCV) Workshop on Driver Drowsiness Detection from Video*, 2016.

Master's Thesis: **Fei Pan**. Deep Recursive Segmentation Networks. 2017.

Projects

- **Robert Bosch – KAIST Joint PhD Program** — funded by Robert Bosch GmbH
  Researcher — *Aug 2019 - Present*
  - I am sponsored by Bosch to research on new frameworks and algorithms for domain adaptation in different utilization environments with fusion of multiple visual data. My job is to conduct an literature review of domain adaptation on segmentation; to develop new framework for domain adaptation in different utilization environment; to evaluate the new frameworks in real road scenes.
- **Robert Bosch – KAIST Smart Car Project: SeeAnything** — funded by Robert Bosch GmbH
  Deep Learning Engineer — *Jun 2018 - Present*
  - The goal of this project is to develop novel technologies toward collaboration between CCTV cameras and multiple connected vehicles. My job is to extract static background using background subtraction algorithms; to build a deep neural network-based road marks segmentation model; and to build a person re-identification module.
- **Highly Accurate Saliency Detection System** — funded by Mirero System Co., Ltd
  Deep Learning Engineer — *Mar 2017 - Nov 2017*
  - The goal of this project is to develop a saliency detection system of high accuracy on benchmark datasets. My job is to build a end-to-end deep neural network-based model for saliency detection.
- **Driver Assistant Active Safety System** — funded by National Core Research Center of South Korea
  Deep Learning Engineer — *April 2016 - Feb 2017*
  - The goal of this project is to build a high-performance vision algorithm of active safety driver assistance systems. My job is to participate in creating drowsiness labeling dataset; to build a deep neural network-based architecture for drowsiness detection.

Experience

- **KAIST Robotics and Computer Vision Lab** — Daejeon, South Korea
  Research Assistant — *Feb 2018 - Present*
  - Research on deep neural network-based domain adaptive approaches for semantic segmentation task.
- **KAIST Artificial Intelligence and Machine Learning Lab** — Daejeon, South Korea
  Research Assistant — *Feb 2016 - Jan 2018*
  - Research on deep neural network-based approaches for driver drowsiness detection and saliency detection. Publish a paper on ACCV 2016 Drowsiness Detection Workshop.
- **Xidian University** — Xi'an, P.R. China
  Research Internship — *May 2015 - Jan 2016*
  - Complete Machine Learning course by Stanford University on Coursera. Implement logistic regression using MATLAB.
- **Suanier Co., Ltd** — Xi'an, P.R. China
  Software Engineer Internship — *Feb 2015 - April 2015*
  - Implement the SIFT algorithm for 3D point cloud reconstruction. Excel in communication and teamwork at start-up companies.

Skills

- **Prog. Lang.**: Python, Matlab, C/C++, HTML, LaTeX, Markdown.
- **Deep Learning**: Pytorch, Tensorflow, Keras.
- **Library**: Numpy, Scipy, Scikit-learn, OpenCV, Matplotlib.

Honors

- **Robert Bosch PhD Program Scholarship** (EUR €22000 per year), Robert Bosch GmbH, 2019 - 2022.
- **KAIST Scholarship** (full scholarship for Master's and Ph.D. Program), KAIST, 2016 - 2022.
- **Outstanding Graduate Award**, Xidian University, 2015.
- **Shenzhen Goodix Technology Scholarship** (RMB ¥5000), Goodix Technology Co., Ltd., 2015.
- **National Scholarship** (RMB ¥8000 per year), Ministry of Education of P.R. China, 2012, 2013, 2014.

Reviewer Experiences

- CVPR 2020 - Visual Learning with Limited Labels Worshop.

Language

- **English**: Professional Proficiency
- **Chinese**: Native Proficiency
- **Korean**: Beginner