Peize Sun

Email: sunpeize@foxmail.com Telephone: +86 18392888870

Education

M.E. in Electrical Engneering, Xi'an Jiaotong University, China 09/2017 – 06/2020 (Expected)
Recommended Postgraduate

Visiting Student, **University of California, Berkeley**, USA 06/2018 – 09/2018
GPA:3.7/4.0

B.E. in Electrical Engneering 09/2013 – 06/2017
Xi'an Jiaotong University (C9 League, QS ranking 13 in Chinese Mainland)
GPA:88/100 **Ranking: 1/64**

Awards

Chiang Chen Enterprise Scholarship (**top 2%**) 2018&2017
National Scholarship (top 1%) 2016
National Endeavor Scholarship(top 1%) 2015&2014

1st Place in Robust Reading Challenge on Arbitrary-Shaped Text, one of competitions in International Conference of Document Analysis and Recognition(ICDAR), participating institutions including Sogou, Alibaba, Tencent, Peking University, etc. 2019
1st Prize, "Li Yanming Cup" Science and Technology Innovation Contest of XJTU 2016
1st Prize, Hardware Entrepreneurship Contest of Xi'an Pioneering Community 2016
2nd Prize, "TI Cup" Electronic Design Contest of Shaanxi 2016
2nd Prize, National Contest on Energy Saving & Emission Reduction 2016
2nd Prize, "Internet +" Entrepreneurship Competition of XJTU 2016
1st Prize (Meritorious Winner), Interdisciplinary Contest in Modeling of America 2016
3rd Prize, Entrepreneurship Contest of Fen Hu Hackerspace of Suzhou 2015
2nd Prize, Mathematical Contest in Modeling for College Students in Shaanxi 2015
1st Prize, Mathematical Contest in Modeling of XJTU 2015

Publication

Papers:

[1] **Peize Sun**, Xiaonan Wang et al. Development of Cloud Service Platform for Live Detection System of Switchgear [C]. Proceedings of Chinese Electrical Appliance Intelligent System and Application Conference, 2017: 185-191.

[2] **Peize Sun**, Yanzhe Zhang et al. Design of Detection System for Reactor Interturn Short Circuit Based on Goertzel Algorithm [J]. Research on University Laboratory 2016(02):49-51

Patents:

[1] **Peize Sun,** Tianjie Qiao, Shuangrui Yin,et al, A Method for Flue Gas Pollutant Disposal Based on Wet Plasma [P]. CN Patent, 201610595948.5

[2] Xiaohua Wang, **Peize Sun,** Tianjie Qiao, et al, A Device for Flue Gas Pollutant Treatment [P]. CN Patent, 201610595567.7
[3] Mingzhe Rong, Xiaohua Wang, Kang Yang, Aijun Yang, Weidan Deng, Dingxin Liu, **Peize Sun**, DingLi Xie. A method and system for managing and monitoring status of electrical equipment based on cloud service platform [P]. CN Patent, 201710534456.X(Public)
[4] Lei Chen, Yu Xiao, **Peize Sun,** Weidan Deng et al, A Device for Smog Treatment [P]. CN Patent, CN201721306285.7(Public)
[5] Liang Li, Li Zhang, Feiyan Zhou, Peilin Hao, Houkai Zhang, **Peize Sun**. A compact alternating current arc heating device and driving method [P]. CN Patent, CN201711308978.4(Public)

Research Experience

Megvii(Face++), China 12/2018-now
Detection Group
Megvii a leading Chinese AI start-up, applying computer vision algorithms to Internet of Things (IoT) use cases. Its famous commercialized AI product is facial recognition solutions.
Project: Effective Positive Learning for Single-Stage Pedestrian Detection
Effective Positive Learning is to investigate issues involving positive examples for single-stage pedestrian detectors. My contributions are:
- Discovered hard positive mining training distracts the pedestrian detectors, instead, down-weighting these hard positives boosts the model performance.
- Proposed stage-wise training strategy for hard positives, achieving stage-of-the-art performance in pedestrian detection benchmark.

University of California, Berkeley, USA 08/2018-09/2018
Berkeley Artificial Intelligence Research Lab
Project: Amodal Instance Segmentation via Implicit Maximum Likelihood Estimation
Amodal Instance Segmentation is to predict pixel-wise labelling of both the visible and invisible parts of an instance. My work is studying how to predict multimodal segmentations, including:
- Developed new network architecture of adding noise input channel to existing instance segmentation model, such as Hypercolumn and Mask R-CNN.
- Implemented an Implicit Maximum Likelihood Estimation algorithm in training iteration process.

Xi'an Jiaotong University, China 04/2016 - 07/2018
Electrical Appliance Lab
Project: Intelligence Video Surveillance System of Power Transmission Lines
This system consists of front-end cameras fixed on the electric power tower and back-end analysis software to realize unmanned monitoring. My contributions are:
- Developed an algorithm based on computer vision for anomaly detection, e.g., kites stuck on the line.
- Built up a website for user interaction, whose functions include GIS map navigating location, surveillance video live and playback, alarming anomalous events, etc.

Project: Cloud Platform for Assisting Switchgears Status diagnosis
This platform provides machine learning algorithms to help electricity substation workers evaluate the running status of switchgears. My contributions are:
- Developed a program based on Support Vector Machine to diagnose mechanical status.
- Implemented a program based on Convolutional Neural Network to recognize discharge pattern.
- Designed a program based on Non-Maximum Suppression to detect heat peak point in thermography.