Liang **Xu**

Shenzhen, China

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Research Interests

Computer Vision, Video Understanding, Action Detection & Recognition, etc

Education

Huazhong University of Science and Technology(HUST, GPA:85/100) — *Wuhan, China*

M.S. in Information & Communication Engineering — *Sep. 2016 - Jun 2019*

Concentration: Temporal Action Detection, Action Recognition

Advisor: Bin Feng, Xinggang Wang

Xidian University(Xidian, GPA:81/100) — *Xi'an, China*

B.S. in Biomedical-Engineering — *Sep. 2012 - Jun 2016*

Related Courses: Digital Image Processing(98), Random Signal Processing(98), Digital Signal Process(88),Signals and Systems(86)

Advisor: Liyu Huang

Honors & Awards

2017 **First Prize Academic Scholarship**, HUST — *Wuhan, China*

2016 **First Prize Academic Scholarship**, HUST — *Wuhan, China*

2015 **Award of Excellence** , Provincial awards — *Xi'an, China*

College Students Innovation and Entrepreneurship Project organised by Shaanxi Province

2015 **Second Prize Academic Scholarship**, Xidian — *Xi'an, China*

2014 **Third Prize Academic Scholarship**, Xidian — *Xi'an, China*

Working Experience

Computer Vision Researcher — *Shenzhen, China*

SenseTime Technology — *Jul. 2019 - Present*

Car Wheel(Key Point) Detection:

- Detect the position of four wheels to judge the direction of the vehicle.
- Achieved comparable performance to large model but with only 10% of the backbone parameters.

Road Damage Detection:

- Detect and recognize road damages(cracks, potholes, etc.).
- Explored the impacts of bounding box ratio and polygon detection in anomaly detection.
- Outperformed the 1st solution of IEEE BigData 2020 Global Road Damage Detection Challenge(in the post-match leaderboard).

Passenger Fall Recognization:

- Recognize passenger's fall in escalator surveillance video.
- Implemented a TSM network to model spatial-temporal information in video with conventional 2D CNN in real-time.

Research Intern — *Beijing, China*

SenseTime Technology — *Jan. 2018 - Jul. 2018*

Face Tracking:

- Tracking face on the smartphone with ultra-lightweight GOTURN backbone.
- Devised a new training pipeline to improve the model's robustness to motion jitter and training speed(10x).

Publication

Xu, L. (2019).*Cascaded Boundary Network for High-Quality Temporal Action Proposal Generation*. IEEE Transactions on Circuits and Systems for Video Technology, 30(10), 3702-3713.

Skills

Machine Learning PyTorch, TensorFlow
Programming Python, C++, MATLAB
Languages Chinese, English(IELTS Overall Band 7.5, speaking 7.0)

References

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