Ling Luo

SketchX Lab
Centre for Vision, Speech and Signal Processing (CVSSP)
Surrey University
Phone: +86 156 5291 4849
email: l.luo@surrey.ac.uk
url: https://rowl1ng.com
github: https://github.com/rowl1ng

Education

2019-   PhD in Centre for Vision, Speech and Signal Processing (CVSSP) at Surrey University.
Research focus: Machine Learning & Sketch Related 3D Computer Vision

2016-2019   Master in Information Security at Beijing University of Posts and Telecommunications.
Research focus: Machine Learning & Computer Vision

2012-2016   Bachelor of Science in Information Security at Beijing University of Posts and Telecommunications.

Publications

3DV21   **Ling Luo**, Yulia Gryaditskaya, Yongxin Yang, Tao Xiang, Yi-Zhe Song: *Fine-Grained VR Sketching: Dataset and Insights*. International Conference on 3D Vision (3DV), 2021.

3DV20   **Ling Luo**, Yulia Gryaditskaya, Yongxin Yang, Tao Xiang, Yi-Zhe Song: *Towards 3D VR-sketch to 3D shape retrieval*. International Conference on 3D Vision (3DV), 2020, **oral**.

CVPR19   Fandong Zhang[*], **Ling Luo**[*], Xinwei Sun, Zhen Zhou, Xiuli Li, Yizhou Yu, Yizhou Wang: *Cascaded Generative and Discriminative Learning for Microcalcification Detection in Breast Mammograms*. Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2019.

MICCAI19   Yuhang Liu[*], Zhen Zhou[*], Shu Zhang, **Ling Luo**, Qianyi Zhang, Fandong Zhang, Xiuli Li, Yizhou Wang, Yizhou Yu: *From Unilateral to Bilateral Learning: Detecting Mammogram Masses with Contrasted Bilateral Network*. International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), 2019.

Projects & Experiences

2017-2019   Internship at Deepwise Co.Ltd Research Institute. We used deep learning methods to detect calcification and masses in mammograms (breast x-ray), my work contains:
1. Developed microcalcification detection algorithms using Student's t-test loss to learn different residuals. By putting constraints directly on the residual distribution of each category, microcalcification can be significantly distinguished from normal tissues.

2. Developed mass detection and segmentation algorithms using bilateral mammograms based on Mask-RCNN. By redesigning data flow and network, contrast between bilateral breasts are introduced, which prove to reduce false positives while increasing recall.
Both work has been productized and deployed in several hospitals.

2017   Reconstruction-based Robust Pavement Crack Detection: Proposed a novel network using reconstruction loss to enforce segmentation performance since crack detection is more like an abnormal detection task. This program is aimed for transportation maintenance, and the proposed method shows better generality among different road conditions.

2017   Wechat chatbot based on Rasa NLU: Developed an chatbot for Wechat by combining Rasa NLU(natural language understanding) Rasa Core(dialogue manager) and Wechat api. More details can be seen in my blog.

2017   Baidu Meizu deep learning Application Contest: Developed an attention-based arithmetic recognition algorithms for four fundamental admixture operations of arithmetic and ranked **8/206**.

2017   Tianchi Lung Nodule Analysis Contest: Implemented a 2-stage network to detect the nodule candidates and reduce false positive rate respectively, which ranked **64/2887**.

Skills

Programming	Python, Java, SQL, LaTeX, MATLAB
Tools	Git, Pytorch, Tensorflow, Caffe, Unity3D
Language	Chinese Mandarin (native), English