

Li Ding | Curriculum Vitae

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Education

University of Rochester	Rochester, NY
<i>M.S. in Data Science, Half-Tuition Scholarship</i>	<i>Jun. 2016 - May 2017</i>
Central University of Finance and Economics	Beijing, China
<i>B.S. in Statistics, Excellent Youth 2014 - 2015 (Top 2%)</i>	<i>Sep. 2012 - Jun. 2016</i>

Experiences

Massachusetts Institute of Technology	Cambridge, MA
<i>Research Engineer, Center for Transportation and Logistics</i>	<i>Sep. 2017 - present</i>
– Human-centered autonomous vehicle research, supervised by Dr. Lex Fridman and Dr. Bryan Reimer.	
– Working on deep learning for scene perception and vision-based control of autonomous vehicles.	
– Working on video motion estimation and optical flow tracking for dynamic driving scene understanding.	
– TA for MIT 6.S094: <i>Deep Learning for Self-Driving Cars</i> & MIT 6.S099: <i>Artificial General Intelligence</i> .	
University of Rochester	Rochester, NY
<i>Research Associate, Dept. of Computer Science</i>	<i>Jun. 2017 - Sep. 2017</i>
– Computer vision and video understanding research, supervised by Dr. Chenliang Xu.	
– Worked on deep learning for temporal modeling and human action recognition in video sequences.	
VisualDX Inc.	Rochester, NY
<i>Intern, Master Degree Practicum</i>	<i>Mar. 2017 - May 2017</i>
– Intrusion detection: designed a real-time website monitoring system using deep learning and sequence modeling.	
PricewaterhouseCoopers Information Technologies Co., Ltd.	Shanghai, China
<i>Intern, Big Data Group</i>	<i>Jan. 2016 - Apr. 2016</i>
– Statistical data analysis and machine learning for insurance prediction, backend software development.	

Skills

- **Deep Learning:** 2 years | various frameworks such as Tensorflow, PyTorch, Caffe, Keras.
- **Computer Vision:** 2 years | image and video processing, machine vision, using FFmpeg, OpenCV.
- **Python:** 4 years | machine learning and data processing, using Numpy, Pandas, sklearn.
- **Others:** Unix (Bash), Git, R, L^AT_EX, Docker, JavaScript, ROSPy, MTurk, MySQL.

Competitions

<i>Kaggle - Statoil/C-CORE Iceberg Classifier Challenge: Bronze Medal (Top 6%)</i>	<i>Jan. 2018</i>
<i>Kaggle - Data Science Bowl 2017 (Lung Cancer Detection): Bronze Medal (Top 6%)</i>	<i>May 2017</i>
<i>Mathematical Contest In Modeling (MCM/ICM) 2015: Meritorious Winner (Top 5%)</i>	<i>Apr. 2015</i>

Publications

Weakly-Supervised Action Segmentation with Iterative Soft Boundary Assignment

Li Ding & Chenliang Xu, CVPR '18

Mar. 2018

- We propose a novel action modeling framework, which consists of Temporal Convolutional Feature Pyramid Network (TCFPN), a new temporal convolutional neural network architecture, and Iterative Soft Boundary Assignment (ISBA), a novel training strategy for weakly-supervised sequence modeling.
- The proposed framework is evaluated on two benchmark datasets, extensive experimental results show that our methods achieve competitive or superior performance to state-of-the-art methods.

MIT Autonomous Vehicle Technology Study: Large-Scale Deep Learning Based Analysis of Driver Behavior and Interaction with Automation

Lex Fridman et al., arXiv

Nov. 2017

- The MIT Autonomous Vehicle Technology (MIT-AVT) study seeks to collect and analyze large-scale naturalistic semi-autonomous driving data, in order to characterize the state of current technology use, and extract insight on how automation-enabled technologies impact human-machine interaction across a range of environments.
- We use both 1) AI algorithms to analyze the entirety of the driving experience in large-scale data, and 2) human expertise and qualitative analysis to dive deep into the data to gain case-specific understanding.

TricorNet: A Hybrid Temporal Convolutional and Recurrent Network for Video Action Segmentation

Li Ding & Chenliang Xu, arXiv

May 2017

- We introduce a novel hybrid temporal convolutional and recurrent network (TricorNet), which consists of a hierarchy of temporal convolutional kernels that capture the local motion changes, and a hierarchy of recurrent neural networks that are able to learn and memorize long-term action dependencies after the encoding stage.
- Experimental results on three public action segmentation datasets have shown that the proposed model achieves superior performance over the state of the art.

Services

Journal Reviewer

IEEE Transactions on Circuits and Systems for Video Technology

2018

IEEE Access

2018

Teaching Assistant

MIT 6.S094: Deep Learning for Self-Driving Cars

Jan. 2018

MIT 6.S099: Artificial General Intelligence

Feb. 2018