Junyuan Hong | Curriculum Vitae

Michigan State University – 428 S Shaw Ln, East Lansing, Michigan, US 48823

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Education

Michigan State University **East Lansing, USA**
Ph.D., Computer Science and Engineering *2018.9–*
Advisor: Prof. Jiayu Zhou

University of Science and Technology of China **Hefei, P.R.China**
M.E., Computer Science *2015.9–2018.6*
Advisor: Prof. Huanhuan Chen
Outstanding Freshman Scholarship (Grade 1)

University of Science and Technology of China **Hefei, P.R.China**
B.S., Physics, Computer Science minor *2011.9–2015.6*
Outstanding Undergraduate Scholarship (Grade 3)
Outstanding Freshman Scholarship (Grade 2)

Research Experience

Data Privacy in Machine Learning **2018–**
Machine Learning *ILLIDAN Lab, MSU*
Current machine learning algorithms could be vulnerable to privacy attacks which aims at retrieving sensitive training data without permission. To defend attacks, we are designing advanced algorithms to efficiently protect data without heavily decreasing model utility.

Disturbance Grassmann Kernels **2017–2018**
Machine Learning *USTC-Birmingham Joint Research Inst. (UBRI)*
We extend the data augmentation method to kernel-based classifiers through dual optimization and apply the method to classifying subspace data, e.g. action videos.
- The paper has been accepted to ACM SIGKDD'18 (London, UK).

Data Augmentation for Action Recognition **2015–2017**
Machine Learning *UBRI*
By representing action videos as subspaces, we develop a novel method to improve the accuracy of recognition by augmenting representation data.
- The paper was ever submitted to AAAI-18, getting 1 acceptation, 1 weak rejection and 1 rejection.
- The paper has been submitted to DASFAA-18, titled: Variant Grassmann Manifolds: a Representation Augmentation Method for Action Recognition.

Model-based Kernel Method for Time Series Classification **2015–2016**
Machine Learning *UBRI*
We utilize a special type of Recurrent Neural Network, in which neural signals simulate natural spiking, to represent time series in model space for classification. As second author, I contribute a lot to codes and advise to apply the model to **event-based time series**.
- A conference paper on ECML (CCF B) as the second author.

Project Experience

Cinema Manager System **2015.8**
Software Designer and Engineer *Works Applications (WAP), Shanghai*

(5-day internship) This project aims to design software for cinema managers, which should be efficient for their daily work. The whole internship is of English-based communication.

- Software design and documentation composing;
- Implement software using Java in one day and demonstrate it to WAP engineer;
- Get job offer from Works Applications.

Underworld Detection Project **2014–2015**

Engineer and Manager *USTC-Birmingham Joint Research Institute (UBRI)*

This project aims to detect underground infrastructure by combining physics and computer technologies. Both **hardware** and **software** works are included.

- As the manager, I distribute and schedule works to teammates, achieving a stable and efficacious cooperation;
- As the engineer, I designed the 1st generation of the cable detectors with my teammates:
  - The outdoor underground cable detector;
  - The indoor cable portable detector.

Publications

Yang Li, **Junyuan Hong**, and Huanhuan Chen. Short sequence classification through discriminable linear dynamical system. *IEEE Transactions on Neural Networks and Learning Systems*, pages 1–13, 2019.

Junyuan Hong, Huanhuan Chen, and Feng Lin. Disturbance Grassmann kernels for subspace-based learning. In *KDD'18: The 24th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining,*, 2018.

Yang Li, **Junyuan Hong**, and Huanhuan Chen. Sequential data classification in the space of liquid state machines. In *Joint European Conference on Machine Learning and Knowledge Discovery in Databases*, pages 313–328. Springer, 2016.

Technical Skills

Programing languages: Matlab > Java = Swift > Python = C++/C Programming, LaTeX
Hardware/Platform: Raspberry Pi, Mac, iOS

Standard Tests

GRE: 312/340+3.0/6.0
TOEFL: R27+L25+S15+W28=95

External Links

GitHub: @jyhong836
Homepage: https://jyhong.gitlab.io