Yunyu Liu

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EDUCATION

09/2020 – now	**Purdue University, Indiana, USA**
	Ph.D., *Major: Computer Science*
09/2018 – 05/2020	**Northeastern University (NEU), Boston, USA**
	M.S., *Major: Computer Engineering, GPA: 3.78*
09/2014 – 07/2018	**Shanghai Jiao Tong University (SJTU), Shanghai, China**
	B.Eng., *Major: Electrical Engineering, GPA: 3.40*
	Minor: Finance, GPA: 3.57

PUBLICATIONS & POSTERS

08/2020   Yue Bai, Lichen Wang, **Yunyu Liu**, Yu Yin, Yun Fu, "Dual-Side Auto-Encoder for High-Dimensional Time Series Segmentation," 20th IEEE International Conference on Data Mining (ICDM 2020)

07/2020   **Yunyu Liu**, Lichen Wang, Yue Bai, Can Qin, Zhengming Ding, Yun Fu, "Generative View-Correlation Adaptation for Semi-Supervised Multi-View Learning," 16th European Conference On Computer Vision (ECCV 2020)

11/2019   Lichen Wang, **Yunyu Liu**, Can Qin, Gan Sun, Yun Fu, "Dual Relation Semi-supervised Multi-label Learning," Thirty-Fourth AAAI Conference on Artificial Intelligence (AAAI 2020)

08/2019   Lichen Wang, Zhengming Ding, Zhiqiang Tao, **Yunyu Liu**, Yun Fu, "Generative Multi-View Human Action Recognition," International Conference on Computer Vision (ICCV 2019) (Oral)

08/2019   Zhiyang Xia, Ping Yi, **Yunyu Liu**, Bo Jiang, Tiantian Xie, Wei Wang, "GENPass: A Multi-Source Deep Learning Model For Password Guessing," IEEE Transactions on Multimedia (TMM)

05/2018   **Yunyu Liu**, Zhiyang Xia, Ping Yi, Wei Wang, Yao Yao, Ting Zhu, Tiantian Xie, "GENPass: A General Deep Learning Model for Password Guessing with PCFG Rules and Adversarial Generation," IEEE International Conference on Communications (ICC 2018)

09/2017   Zhiyang Xia, **Yunyu Liu**, Ping Yi, "Password guess and analyze based on recurrent neural network," The 10th Conference on Vulnerability Analysis and Risk Assessment (VARA 2017)

SCIENTIFIC RESEARCH EXPERIENCE

Purdue University,   **Sep 2020 – now**

Supervisor: Prof. Pan Li

High-order pattern in the temporal network

- Define the interaction expansion of three nodes(a triplet) in a temporal hypergraph
- Try to find what type of, when, and why the interaction happens among a triplet.

Northeastern University, Synergetic Media Learning Lab,   **Oct 2018 – Aug 2020**

Supervisor: Prof. Yun Raymond Fu

Analyzed the EMG Signals

- Preprocessed the EMG signals using Fast Fourier Transform.
- Employed a LSTM to classifier the EMG signals.

Multi-view Learning

- Utilized TSN and WDMM to extract features from RGB graph and depth graph.

- Employed Generative models to fully explore multi-view information.
- Proposed a graph-based method to do the label-level fusion.

Semi-supervised Multi-View Learning

- Adapted domain adaptation methods to the multi-view learning.
- Employed Graph knowledge to help learning the representation.
- Utilized information entropy to help the fusion.

Shanghai Jiao Tong University, IIoT Research Center, Acemap,   **Jun 2017 - Jun 2018**
Supervisor: Prof. Xinbing Wang, Prof. Luoyi Fu
Analyzed the relationship of topics and authors

- Learned k-core and d-core (an algorithm extended k-core to directed graph).
- Designed an algorithm to create a directed graph depicting different topics in the Academic Network.
- Used k-core algorithm, d-core algorithm to analyze the topics and authors.

Shanghai Jiao Tong University, Wireless Network Attack and Defense Laboratory,   **Sep 2016 – Jun 2018**
Supervisor: Prof. Ping Yi
Password cracking using deep learning

- Used Suffix Automaton(SAM), Aho-Corasick algorithm (AC Automaton) to analyze the passwords leaked from Chinese and English language environments.
- Combined LSTM and Probabilistic Context Free Grammar(PCFG) models to create a more effective password guessing model, which had a better performance than both LSTM and PCFG under the same circumstance.
- Design GENPass which learns from different datasets to generate a general wordlist.

Shanghai Jiao Tong University, Undergraduate Innovation Project,   **Dec 2015 - Dec 2016**
Supervisor: Prof. Ping Yi
Designed an algorithm to detect and locate evil APs in the wireless network (using Linux, C)

- Researched and developed a detection algorithm in a small network based on MMSDU and a location algorithm based on the signal strength; a detection algorithm in a large network based on TTL.
- Designed and accomplished an Android client for the large network (Android Studio).

WORKING EXPERIENCE

Shanghai LiveSine Corporation,   **Jul 2016 - Sep 2016**
Supervisor: Prof. Chunyu Zhao
Position: Internship, R&D
Developed a Data Transfer Unit(DTU) with Bluetooth

- Designed and built a DTU with Bluetooth.
- Designed an APP which can communicate with the DTU by Bluetooth and with the server by TCP/IP (using Delphi).