Jiemin Wu

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Education

University of California, Davis — Davis, CA
Master of Science in Computer Science — *Sept. 2019 – Present*
GPA: 3.9/4.0

Sun Yat-sen University — Guangzhou, China
Bachelor of Engineering in Software Engineering — *Sept. 2015 – June 2019*
GPA: 3.8/4.0

Research Interest

My research interests are mainly in unsupervised learning/few-shot learning, reinforcement learning and fundamental research on neural networks. At the same time, I also have a strong passion for interdisciplinary research such as cognitive science and biological computation.

Experience

Undergraduate Research Assistant — Sept. 2018 – June 2019
Lab of Big Data and Communication, Sun Yat-sen University — *Guangzhou, China*

- Hosted several seminars on probabilistic graph models and generative neural networks
- Communicated with other researchers on various projects such as public emotional analysis and rumor detection
- Developed web crawlers to crawl text data of social networks and performed data cleaning
- Provided ideas for the laboratory's fund project application and helped to complete the application

Projects

NB-NTM | *Topic Model, Variational Autoencoder, Mixture model, Random Process* — May 2019 – July 2020

- Proposed two neural topic models based on neural variational inference and negative binomial process
- Conducted comprehensive experiments on 3 real-world datasets in different scales
- Obtained the best performance under two primal criteria compared to 6 baselines
- Wrote an long paper that was accepted by the top-notch NLP conference ACL 2020
- Presented our paper virtually and discussed questions with audiences of the conference

PytorchAegis | *Encrypted Maching Learning, Pytorch, Enclave, CUDA* — Feb. 2020 – Mar. 2020

- Developed a Pytorch library to protect users' private data from malicious cloud service providers.
- Created a credible environment in the OS system with the Intel enclave and Nvidia GPU
- Implemented AES encryption and decryption algorithm with CUDA on Nvidia GPU
- Designed the control flow of key generation and delivery to prevent potential attacks
- Package the library and provide easy-to-use Pytorch API for users

Objective Oriented Clustering | *Soft Clustering, Data Mining, Optimization, Matlab* — May 2018 – July 2018

- Explored an objective oriented clustering algorithm inspired by Kmeans and DBSCAN
- Compared the proposed algorithm to 3 mainstream clustering methods on 7 datasets
- Demonstrated the efficiency by presenting the quantitative results under 3 metrics
- Wrote a 5-page paper and hold a presentation of our method on campus

Publications

- Wu J, Rao Y, Zhang Z, et al. Neural Mixed Counting Models for Dispersed Topic Discovery[C]//Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics. 2020: 6159-6169.

Technical Skills

Languages: Python, C/C++, SQL, CUDA, Matlab, HTML/CSS, Java
Frameworks: Pytorch, Tensorflow, Scrapy
Developer Tools: Git, Vim, Jupyter Notebook, PyCharm, Visual Studio, Google Colab
Others: Embedding System Development, Android App Development