Sia, Xin Yun Suzanna

Web Page: https://suzyahyah.github.io
Email: ssia1@jhu.edu
Github: https://github.com/suzyahyah
Contact: (+1)4434499249

RESEARCH INTERESTS

Inductive Biases in Transformer self-attention models

Previously worked on Multimodal Fusion, Topic Modeling, Multilingual IR, Deep Latent Variable Modeling, Non-parametric Grammar Induction, Argument Mining, Chatbots, Sentiment Analysis

EDUCATION

PhD Computer Science (NLP), Johns Hopkins University 2018-
- Primary Advisor: Kevin Duh

M.Tech Knowledge Engineering, National University of Singapore Jan 2014 – Dec 2016
- Awarded Honors (Distinction)
- Thesis: An Expert System for Energy Efficient Resource Management. Advisor: Zhu Fangming

BSc. A.I & Psychology, University of Edinburgh Sep 2009 – Jul 2013
- Awarded First Class Honors
- Awarded Best CS Thesis, Video Meeting Search Interfaces. Advisor: Steve Renals

AWARDS / SCHOLARSHIPS

Best Poster, NYAS Speech and Dialogue Symposium, (1/60)	2019
PhD Scholarship, DSO National Labs (declined for JHU RAship)	2018
2nd Place, NUS/NUHS-MIT Datathon	2018
3rd Place, 26th Association for Computing Machinery CIKM Analyticup	2017
Kinetic Award, GPA, GPA, DSO National Labs	2016, 2017, 2018
JASSO Scholarship, Japan Government	2016, 2017
Best Computer Science Final Year Project, University of Edinburgh	2013
Best Poster, British Computing Society Lovelace Colloquium	2013
Overseas Undergraduate Scholarship, Defence Science Technology Agency	2009 – 2013

PUBLICATIONS

Dalmia, A. Sia, S. Clustering with UMAP: Why and How Connectivity matters. *Under Review.* [paper]

Sia, S., Niyatti, Kevin Duh, Kokil Jaidka. Persuasion through dissonance: Using modeling constraints to identify winning arguments in multi-party interactions. *Under Review*

Sia, S., Duh, K. Adaptive Mixture LDA for Low-resource Topic Modeling *Proceedings of the 2021 Conference European Association of Computational Linguistics.* [paper] 2021

Sia, S., Dalmia, A., Mielke, S., Tired of Topic Models? Clusters of Pretrained Word Embeddings Make for Fast and Good Topics too! *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing.* [paper] 2020

Sun, S., Sia, S., Duh, K., CLIReval: Evaluating Machine Translation as a Cross-Lingual Information Retrieval Task *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics: System Demonstrations* [paper] 2020

Xie, J., Sia, S., Garcia, P., Povey, D., Khundanpur, S. Mixture of Speaker-type PLDAs for Children's Speech Diarization [paper] *arXiv:2008.13213* 2020

Sia, S., Jaidka, K., Duh, K., A semi-supervised hierarchical generative model of argumentation. *Natural Language, Dialog and Speech Symposium, New York Academy of Sciences.* 2019

Sia, S., Li L.J.A., Hierarchical Module Classification in Mixed Initiative Conversational Agent System, *Proceedings of the 24th ACM International on Conference on Information and Knowledge Management. ACM, 553–562. 12* 2017

SERVICE

Reviewer EMNLP 2019 (Outstanding Reviewer); Journal of Computational Linguistics, ACL 2020

TEACHING

Teaching Assistant (Reviews), CS465/665 NLP, CS462/682 Deep Learning, CS475/675 Machine Learning, Johns Hopkins 2019

Student Mentor, Shibaura Institute of Technology, Saitama, Japan, [Report][Program] 2016

WORK EXPERIENCE

Research Intern, Facebook AI Applied Research Jun 2020/1 – Oct 2020/1
- Multimodal Explanability for Logical Inference
- Multimodal Hatespeech detection, multimodal indexing and retrieval.
- Made several code contributions to Facebook's open source Multimodal Fusion Library

Research Engineer, DSO National Laboratories, Singapore Jun 2015 – Aug 2018
- Defence related NLP projects: Information Retrieval, conversational agents, recommender systems and social computing. Advisor: Chieu Hai Leong

Research Assistant, Singapore Management University Aug 2016 – Dec 2016
- Clustered user sub-groups via collaborative filtering and Variational Inference for Probabilistic Matrix Factorization. Advisor: Jiang Jing

Psychologist, DSO National Laboratories, Singapore Jul 2013 – Jun 2015
- Conducted experiments to evaluate various cognitive and social sensing systems including wearable technology, Microsoft Kinect, and cognitive test batteries. Human factors and usability studies.

Visiting Researcher, Stanford University Mar 2012 – Jul 2012
- Designed metric and implemented the algorithm for automatically scoring a sequence of decisions in an online choice based task. Advisor: Dan Schwartz

PROJECTS

Infinite PCFGs for social grammars 2019
- Hierarchical Dirichlet Process for learning non-parametric grammars. Grammars are evaluated on sentiment classification using easy-first parsing tree LSTMs. [Interim write-up]

Patient Conversation Simulator 2017
- Simulated patient conversation for medical education, demonstrated system with explainable response selection at the 26th ACM Conference of International Knowledge Management.

Undergraduate Admissions QA System, National University of Singapore 2017
- Programmed a live chat system for the Undergraduate Computing admissions cycle. Deployed on NUS School of Computing Website and Facebook page. [Twitter]

Computational Propaganda Project Feb 2016 – May 2016
- Developed anomaly detection algorithms for Taiwan case study in the Computational Propaganda Project by Oxford Internet Institute. [Guardian-article]

SKILLS/TOOLS

Programming: Python, Java, Cython, bash, Octave/Matlab, R, HTML5/Javascript/CSS, Haskell

Research: Git, Scikit-learn, SciPy, NumPy, Pandas, Gensim, Stanford NLP, wordnet/nltk, pymc3, NetworkX, Thulac, Protege, DBPedia, SPARQL, Mallet (Java), EJML (Java), LaTeX

Deep Learning Frameworks: Tensorflow, PyTorch, AllenNLP, Keras

Web: Amazon Web Services, Heroku, NodeJS, ExpressJS, Flask, Scrapy, Selenium, Django

Databases: MongoDB, PostgreSQL, ElasticSearch, Neo4j

Psychology: Amazon Turk, experimental design, participant recruitment, interface design

GRADUATE COURSEWORK

Natural Language Processing, Advanced Bayesian Statistics (Non-parametrics), Linguistic and Sequence Modelling, Distributed Systems, Introduction to Statistics, Information Theory, Randomized Algorithms, Object-Oriented Architecture and Design

ADDITIONAL COURSES / CERTIFICATIONS

Deep Learning Specialization (16 weeks), Coursera/DeepLearning.AI, [Cert] 2018

Machine Learning Specialization (25 weeks), Coursera/University of Washington [Cert] 2017

Machine Learning Summer School, Max Planck Institute of Intelligent Systems, Germany 2017

ITIL Foundation in IT Service Management, AXELOS, UK, [Cert] 2015