

Sia, Xin Yun Suzanna

Web Page: <https://suzyahyah.github.io>

Email: ssia1@jhu.edu

Github: <https://github.com/suzyahyah>

RESEARCH INTERESTS	Inductive Biases in Transformer self-attention models for in-context learning and Machine Translation 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 ▪ Full Scholarship from Singapore government ▪ Awarded First Class Honors ▪ Best Undergrad 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
PUBLICATIONS	Sia, S., Duh, K., Improving In-Context Learning for Machine Translation via PMI-based Separator Initialisation . <i>Under Review</i> 2022 Sia, S., Duh, K., Prefix Embeddings for In-context Machine Translation . <i>AMTAS 2022</i> Sia, S., Belyy, A., Khabisa, M., Amjad, A., Zettlemoyer, L., Mathias, L., On the Logical Satisfiability of Counterfactuals for Evaluating Faithful Explanations in NLI Tasks . <i>Beyond Bayes Workshop@ICML</i> . <i>Under Review AAAI</i> 2022 Dalmia, A. Sia, S. Clustering with UMAP: Why and How Connectivity matters . <i>Workshop on Graphs and more Complex structures for Learning and Reasoning @AAAI 2022</i> 2022 Sia, S. *, Jaidka, K *, Ahuja, H., Chhaya, K., Duh, K. Offer a Different Perspective: Modeling the Belief Alignment of Arguments in Multi-party Debates <i>EMNLP 2022</i> Sia, S., Duh, K. Adaptive Mixture LDA for Low-resource Topic Modeling <i>EACL 2021</i> Sia, S., Dalmia, A., Mielke, S., Tired of Topic Models? Clusters of Pretrained Word Embeddings Make for Fast and Good Topics too! <i>EMNLP 2020</i> Sun, S., Sia, S., Duh, K., CLIReval: Evaluating Machine Translation as a Cross-Lingual Information Retrieval Task <i>ACL 2020 Demo</i> Xie, J., Sia, S., Garcia, P., Povey, D., Khundanpur, S. Mixture of Speaker-type PLDAs for Children's Speech Diarization <i>arXiv:2008.13213</i> 2020 Sia, S., Jaidka, K., Duh, K., A semi-supervised hierarchical generative model of argumentation . <i>Natural Language, Dialog and Speech Symposium, New York Academy of Sciences</i> . 2019 Sia, S., Li L.J.A., Hierarchical Module Classification in Mixed Initiative Conversational Agent System , <i>CIKM Demo 2017</i>

TEACHING	Teaching Assistant NLP(Reviews), DL, ML, Intro Human Language Technology Student Mentor , Shibaura Institute of Technology, Saitama, Japan, [Report] [Program]	2019 2016
WORK EXPERIENCE	<p>Research Intern, Facebook AI Applied Research Jun 2020/1 – Oct 2020/1</p> <ul style="list-style-type: none"> ▪ Multimodal Explainability for Logical Inference ▪ Multimodal Hatespeech detection, multimodal indexing and retrieval. ▪ Made several code contributions to Facebook's open source Multimodal Fusion Library <p>Research Engineer, DSO National Laboratories, Singapore Jun 2015 – Aug 2018</p> <ul style="list-style-type: none"> ▪ Defence related NLP projects: Information Retrieval, conversational agents, recommender systems and social computing. Advisor: Chieu Hai Leong <p>Research Assistant, Singapore Management University Aug 2016 – Dec 2016</p> <ul style="list-style-type: none"> ▪ Clustered user sub-groups via collaborative filtering and Variational Inference for Probabilistic Matrix Factorization. Advisor: Jiang Jing <p>Psychologist, DSO National Laboratories, Singapore Jul 2013 – Jun 2015</p> <ul style="list-style-type: none"> ▪ Conducted experiments to evaluate various cognitive and social sensing systems including wearable technology, Microsoft Kinect, and cognitive test batteries. Human factors and usability studies. <p>Visiting Researcher, Stanford University Mar 2012 – Jul 2012</p> <ul style="list-style-type: none"> ▪ Designed metric and implemented the algorithm for automatically scoring a sequence of decisions in an online choice based task. Advisor: Dan Schwartz 	
PROJECTS	<p>Infinite PCFGs for social grammars 2019</p> <ul style="list-style-type: none"> ▪ Hierarchical Dirichlet Process for learning non-parametric grammars. Grammars are evaluated on sentiment classification using easy-first parsing tree LSTMs. [Interim write-up] <p>Patient Conversation Simulator 2017</p> <ul style="list-style-type: none"> ▪ Simulated patient conversation for medical education, demonstrated system with explainable response selection at the 26th ACM Conference of International Knowledge Management. <p>Undergraduate Admissions QA System, National University of Singapore 2017</p> <ul style="list-style-type: none"> ▪ Programmed a live chat system for the Undergraduate Computing admissions cycle. Deployed on NUS School of Computing Website and Facebook page. [Twitter] <p>Computational Propaganda Project Feb 2016 – May 2016</p> <ul style="list-style-type: none"> ▪ Developed anomaly detection algorithms for Taiwan case study in the Computational Propaganda Project by Oxford Internet Institute. [Guardian-article] 	
SKILLS/TOOLS	<p><u>Programming</u>: Python, Java, Cython, bash, Octave/Matlab, R, HTML5/Javascript/CSS, Haskell</p> <p><u>Research</u>: Git, Scikit-learn, SciPy, NumPy, Pandas, Gensim, Stanford NLP, wordnet/nltk, pymc3, NetworkX, Thulac, Protege, DBPedia, SPARQL, Mallet (Java), EJML (Java), \LaTeX</p> <p><u>Deep Learning Frameworks</u>: Tensorflow, PyTorch, AllenNLP, Keras</p> <p><u>Web</u>: Amazon Web Services, Heroku, NodeJS, ExpressJS, Flask, Scrapy, Selenium, Django</p> <p><u>Databases</u>: MongoDB, PostgreSQL, Elasticsearch, Neo4j</p> <p><u>Psychology</u>: Amazon Turk, experimental design, participant recruitment, interface design</p>	
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	<p>Deep Learning Specialization (16 weeks), Coursera/DeepLearning.AI, [Cert] 2018</p> <p>Machine Learning Specialization (25 weeks), Coursera/University of Washington [Cert] 2017</p> <p>Machine Learning Summer School, Max Planck Institute of Intelligent Systems, Germany 2017</p> <p>ITIL Foundation in IT Service Management, AXELOS, UK, [Cert] 2015</p>	