Sungyong Seo

CONTACT INFORMATION	Computer Science Department RTH 321, 3710 McClintock Ave University of Southern California Los Angeles, CA 90089, USA	*E-mail*: sungyons@usc.edu http://sungyongs.github.io

RESEARCH INTERESTS

Physics-informed learning, Spatio-temporal data mining and learning, Graph-based neural networks, Time series forecasting

EDUCATION

Ph.D., **University of Southern California**, Los Angeles, CA   Aug. 2015 - Present
Computer Science, Advisor: Professor Yan Liu

M.S., **University of Michigan**, Ann Arbor, MI   Sept. 2012 - Dec. 2013
Electrical Engineering, Advisor: Professor Jay Guo

B.S., **Seoul National University**, Seoul, South Korea   Mar. 2005 - Feb. 2012
Electrical and Computer Engineering, Minor in Physics, *(Graduated with honors)*

Nanyang Technological University, Singapore   Jan. 2008 - May 2008
TF-NTU LEaRN Program Visiting Student

SELECTED PUBLICATIONS

Conferences

- Physics-aware Difference Graph Networks for Sparsely-Observed Dynamics
  Sungyong Seo*, Chuizheng Meng*, Yan Liu, *International Conference on Learning Representations (ICLR) 2020*

- A Deep Structural Model for Analyzing Correlated Multivariate Time Series
  Changwei Hu, Yifan Hu, **Sungyong Seo**, *IEEE International Conference on Machine Learning and Applications (ICMLA) 2019*

- Social Bots for Online Public Health Interventions
  Ashok Deb, Anuja Majmundar, **Sungyong Seo**, Akira Matsui, Rajat Tandon, Shen Yan, Jon-Patrick Allem, Emilio Ferrara, *IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM) 2018*

- Automatically Inferring Data Quality for Spatiotemporal Forecasting
  Sungong Seo, Arash Mohegh, George Ban-Weiss, Yan Liu, *International Conference on Learning Representations (ICLR) 2018* and *NeurIPS Workshop on Deep Learning for Physical Sciences 2017*

- Partially Generative Neural Networks for Gang Crime Classification with Partial Information
  Sungong Seo, Hau Chan, P. Jeffrey Brantingham, Jorja Leap, Phebe Vayanos, Milind Tambe, Yan Liu, *AAAI/ACM Conference on AI, Ethics, and Society (AIES) 2018* (Oral presentation)

- CSI: A Hybrid Deep Model for Fake News Detection
  Sungyong Seo*, Natali Ruchansky*, Yan Liu, *International Conference on Information and Knowledge Management (CIKM) 2017*

- Interpretable Convolutional Neural Networks with Dual Local and Global Attention for Review Rating Prediction
  Sungyong Seo, Jing Huang, Hao Yang, Yan Liu, *ACM Conference on Recommender Systems (RecSys) 2017*

Workshops and Preprints

- Physics-aware Spatiotemporal Modules with Auxiliary Tasks for Meta-Learning
  Sungyong Seo*, Chuizheng Meng*, Yan Liu, *arXiv preprint 2020*

- Coronavirus on Social Media: Analyzing Misinformation in Twitter Conversations
  Karishma Sharma, **Sungyong Seo**, Chuizheng Meng, Sirisha Rambhatla, Yan Liu, *arXiv preprint 2020*

- Differentiable Physics-informed Graph Networks
  Sungyong Seo, Yan Liu, *arXiv preprint* and *ICLR Workshop on Representation Learning on Graphs and Manifolds 2019*

- Data-driven Temporal Attribution Discovery of Temperature Dynamics based on Attention Networks
  Sungyong Seo, Jiachen Zhang, George Ban-Weiss, Yan Liu, *International Workshop on Climate Informatics (CI) 2019*

- Graph Convolutional Autoencoder with Recurrent Neural Networks for Spatiotemporal Forecasting
  Sungyong Seo, Arash Mohegh, George Ban-Weiss, Yan Liu, *International Workshop on Climate Informatics (CI) 2017*

- Representation Learning of Users and Items for Review Rating Prediction Using Attention-based Convolutional Neural Network
  Sungyong Seo, Jing Huang, Hao Yang, Yan Liu, *SDM Workshop on Machine Learning for Recommender Systems 2017*

WORK EXPERIENCE	**Google Cloud AI**	Sunnyvale, CA (Remote)
	Research Intern work with Sercan O. Arik	May 2020 - Present
	Incorporate prior knowledge with data-driven model for controllable models.	
	Center for Data Science (CDS) at New York University	New York, NY
	Visiting Researcher worked with Kyunghyun Cho	Jul. 2019 - Jan. 2020
	Yahoo! Research	New York, NY
	Research Intern worked with Changwei Hu and Yifan Hu	May 2018 - Aug. 2018
	Visa Research	Foster City, CA
	Research Intern worked with Jing Huang	Jun. 2016 - Aug. 2016

ACADEMIC SERVICES	Reviewer: ICML2020, NeurIPS2020

HONORS AND AWARDS	ICLR Travel Award	2018, 2020
	NIPS DLPS Workshop Travel Support	Dec. 2017
	SIGIR Travel Award, US NSF and SIGWEB Travel Award (CIKM)	Nov. 2017
	Travel Fellowship Award to Climate Informatics Workshop	Sep. 2017
	USC Annenberg Graduate Fellowship	Aug. 2015 - Dec. 2019
	Departmental Fellowship from Electrical Engineering	Jan. 2014 - Apr. 2014
	Temasek Foundation - NTU LEaRN Scholarship	Jan. 2008 - May 2008
	National Science and Technology Scholarship	Mar. 2005 - Dec. 2010