

# Songgaojun Deng

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RESEARCH INTERESTS	Machine learning and data mining motivated by real-world problems in social, health informatics and e-commerce; domain generalization in time series.
EXPERIENCE	<p><b>Postdoc Researcher</b>, AIRLab, University of Amsterdam (Amsterdam, The Netherlands) Jan 2023– Supervised by Prof. dr. Maarten de Rijke and Dr. Sebastian Schelter on time series domain generalization</p> <p><b>Research Engineer Intern</b>, Yahoo Research (Sunnyvale, CA) June–Aug 2020 Supervised by Dr. Datong Chen on industrial cookieless ads targeting.</p> <p><b>Research &amp; Development Intern</b>, Institute of Electronics, Chinese Academy of Sciences Worked on data visualization in real-time computing platforms. July 2015–Mar 2016</p>
EDUCATION	<p><b>Ph.D. Computer Science</b>, Stevens Institute of Technology (Hoboken, NJ) Aug 2018–Aug 2022 <i>Advisor</i>: Dr. Yue Ning <i>Thesis</i>: Modeling and Understanding Societal Events via Graph Neural Networks</p> <p><b>M.S. Software Engineering</b>, Beijing Institute of Technology Sep 2016–June 2018 <i>Thesis</i>: Evolutionary Neural Network Algorithm Based on Triplet Nucleotide Coding</p> <p><b>B.S. Electronic Information Science and Technology</b>, China University of Mining and Technology Sep 2012–June 2016</p>
SERVICES	<p><b>Journal Reviewer</b> IEEE TNNLS, JMLR, IEEE TIP, IEEE TPAMI, Cybernetics and Systems, ACM TIST, ACM TOIS, Expert Systems with Applications, International Journal of Digital Earth, PeerJ</p> <p><b>Program Chair Member</b> AAAI(2022–2024), CIKM(2022), LoG(2022, 2023), SIGIR ICTIR(2023)</p> <p><b>Subreviewer</b> CIKM(2023), SIGIR(2023), BioKDD(2022), WiML@NeurIPS(2020), SDM(2018)</p> <p><b>Volunteer</b> SIGKDD(2019, 2020)</p>
AWARDS	<p><b>Excellence in Graduate Research</b>, Stevens Institute of Technology 2022</p> <p><b>Excellence Doctoral Fellowship</b>, Stevens Institute of Technology 2021</p> <p><b>Departmental Nomination for Microsoft PhD Fellowship</b>, Stevens Institute of Technology 2021</p>
TEACHING & SUPERVISION	<p><b>Recommender Systems, Lecturer</b>, University of Amsterdam June 2023</p> <p><b>Bachelor's thesis supervision</b>, University of Amsterdam 2023</p> <ul style="list-style-type: none"><li>Improving generalization ability of Transformer models in time series forecasting - <i>Daniel Uytterlinde</i></li><li>Enhancing air quality prediction through transfer learning and model adaptation - <i>Alihan Ince</i></li><li>Integrating crude oil price for improved oil stock price forecasting using LSTM - <i>Taiki Lazos</i></li><li>Time series forecasting of biobridge strain: a deep learning approach with LSTM - <i>Enes Doğan</i></li></ul> <p><b>Natural Language Processing, Lecture material preparer</b>, Stevens Institute of Technology 2019</p>
COMPETENCES	<p><b>Languages</b> Mandarin (<i>native</i>), English (<i>fluent</i>)</p> <p><b>Techniques</b> Python, SQL, PHP, JavaScript, PyTorch, Keras, DGL, Scikit-Learn, Pandas, git, <math>\LaTeX</math></p>

TUTORIALS	<p>[1] Deng, Songgaojun, Jindong Wang, and Maarten de Rijke. "Out-of-Distribution Generalization in Time Series" <i>AAAI</i>, 2024 (To appear).</p> <p>[2] Deng, Songgaojun, Huzefa Rangwala, and Yue Ning. "Explainable AI for Societal Event Predictions: Foundations, Methods, and Applications" <i>AAAI</i>, 2021.</p>
SELECTED PUBLICATIONS	<p>[1] Liu, Cheng, Chenhuan Yu, Ning Gui, Zhiwu Yu, Songgaojun Deng. "SimGCL: Graph Contrastive Learning by Finding Homophily in Heterophily." <i>Knowledge and Information Systems</i>, 2023.</p> <p>[2] Deng, Songgaojun, Huzefa Rangwala, and Yue Ning. "Causality Enhanced Societal Event Forecasting With Heterogeneous Graph Learning." <i>2022 IEEE International Conference on Data Mining (ICDM)</i>. <i>IEEE</i>, 2022.</p> <p>[3] Deng, Songgaojun, Huzefa Rangwala, and Yue Ning. "Robust Event Forecasting with Spatiotemporal Confounder Learning." <i>Proceedings of the 28th ACM SIGKDD Conference on Knowledge Discovery and Data Mining</i>. 2022.</p> <p>[4] Deng, Songgaojun, Huzefa Rangwala, and Yue Ning. "Understanding event predictions via contextualized multilevel feature learning." <i>Proceedings of the 30th ACM International Conference on Information &amp; Knowledge Management</i>. 2021.</p> <p>[5] Deng, Songgaojun, et al. "Cola-GNN: Cross-location attention based graph neural networks for long-term ILI prediction." <i>Proceedings of the 29th ACM international conference on information &amp; knowledge management</i>. 2020.</p> <p>[6] Deng, Songgaojun, Huzefa Rangwala, and Yue Ning. "Dynamic knowledge graph based multi-event forecasting." <i>Proceedings of the 26th ACM SIGKDD International Conference on Knowledge Discovery &amp; Data Mining</i>. 2020.</p> <p>[7] Deng, Songgaojun, Huzefa Rangwala, and Yue Ning. "Learning dynamic context graphs for predicting social events." <i>Proceedings of the 25th ACM SIGKDD International Conference on Knowledge Discovery &amp; Data Mining</i>. 2019.</p>
SELECTED TALKS	<p>[1] "Modeling and Understanding Societal Events via Graph Neural Networks" at <i>AIRLab, University of Amsterdam</i>. March 7, 2022.</p> <p>[2] "Modeling and Understanding Societal Events via Graph Neural Networks" at <i>CISPA Helmholtz Center for Information Security</i>. Online. September 15, 2022.</p> <p>[3] "Modeling and Understanding Societal Events via Graph Neural Networks" at <i>Vector Institute for Artificial Intelligence</i>. Online. July 28, 2022.</p> <p>[4] "Modeling and Understanding Societal Events via Graph Neural Networks" at <i>NEC Laboratories America</i>. Online. March 11, 2022.</p> <p>[5] "Learning Dynamic Patterns for Predicting Societal Events" at <i>Yahoo Research, Targeting Science Team</i>. Online. August 2020.</p>
REFERENCES	<p>[1] <b>Prof. dr. Maarten de Rijke</b>, Distinguished University Professor, University of Amsterdam. Email: m.derijke@uva.nl.</p> <p>[2] <b>Dr. Yue Ning</b>, Assistant Professor, Department of Computer Science, Stevens Institute of Technology. Email: yue.ning@stevens.edu.</p> <p>[3] <b>Dr. Huzefa Rangwala</b>, Professor, Department of Computer Science, George Mason University/ML Scientist, Amazon. Email: rangwala@gmu.edu.</p> <p>[4] <b>Dr. Wendy Hui Wang</b>, Associate Professor, Department of Computer Science, Stevens Institute of Technology, Email: hwang4@stevens.edu.</p>