

# Junheng Hao

CONTACT INFORMATION	Department of Computer Science Henry Samueli School of Engineering and Applied Science University of California, Los Angeles (UCLA) <i>E-mail:</i> <a href="mailto:jhao@cs.ucla.edu">jhao@cs.ucla.edu</a> <i>Mobile:</i> +1 (424)355-5950	<a href="#">Homepage</a> <a href="#">LinkedIn</a> <a href="#">Google Scholar</a> <a href="#">Semantic Scholar</a> <a href="#">DBLP Profile</a>
RESEARCH INTERESTS	Knowledge is power; knowledge graphs (KGs) are power to next-generation AI analytics. My research interests lie at the intersection of graph learning, data mining, natural language processing and machine learning with a focus on knowledge bases and graphs, especially learning symbolic and semantic structures inside KGs and its empowered interdisciplinary applications.	
EDUCATION	<b>University of California Los Angeles (UCLA)</b> , CA, USA Ph.D. in Computer Science <b>Thesis:</b> Incorporating ontological information in knowledge graph learning and applications <b>Advisors:</b> <a href="#">Yizhou Sun</a> , <a href="#">Wei Wang</a> <b>Sept 2022 (Expected)</b>	
	<b>Tsinghua University</b> , Beijing, China B. Eng. in School of Information Science and Technology <b>May 2017</b>	
PROFESSIONAL EXPERIENCE (INDUSTRY)	<b>Research Intern</b> at Microsoft Research (MSR), Redmond, WA • <b>Mentors:</b> Chieh-Han Wu, Zhihong (Iris) Shen, <a href="#">Ye-Yi Wang</a> , <a href="#">Jennifer Neville</a> <b>June 2021 - Sept 2021</b> <b>PhD Research Intern</b> at IBM Research AI, San Jose, CA • <b>Mentor:</b> Chuan Lei, Berthold Reinwald, <a href="#">Fatma Ozcan</a> <b>June 2020 - Sept 2020</b> <b>Applied Scientist Intern/Student Researcher</b> at Amazon, Seattle, WA • <b>Mentors:</b> Tong Zhao, <a href="#">Luna Xin Dong</a> , <a href="#">Christos Faloutsos</a> <b>June 2019 - Dec 2019</b> <b>Research Intern</b> at <b>NEC Lab America</b> , Princeton, NJ • <b>Mentors:</b> Lu-An Tang, Zhichun Li, <a href="#">Haifeng Chen</a> <b>June 2018 - Sept 2018</b>	
PUBLICATION SUMMARY	As of April 2022: I have accomplished <u>10+</u> Papers published papers and submissions (210+ citations), among which I first-authored papers published on top-tier venues (KDD, CIKM, BCB) from interdisciplinary domains across NLP, recommendation and bioinformatics. More up-to-date publications can be found in <a href="#">Google Scholar</a> . Several research works and internship projects (such as P-Companion [2]) have been successfully deployed in market-scale product.	
SELECTED PUBLICATIONS & SUBMISSIONS	<ul style="list-style-type: none"><li>[1] <i>Multi-source Inductive Graph Knowledge Transfer</i> <b>Junheng Hao</b>, Lu-An Tang, Yizhou Sun, Zhengzhang Chen, Haifeng Chen, Junghwan Rhee, Zhichun Li and Wei Wang. Proceedings of Joint European Conference on Machine Learning and Knowledge Discovery in Databases (ECML-PKDD). September 2022.</li><li>[2] <i>Metadata-Induced Contrastive Learning for Zero-Shot Multi-Label Text Classification</i> Yu Zhang, Zhihong Shen, Chieh-Han Wu, Boya Xie, <b>Junheng Hao</b>, Ye-Yi Wang, Kuansan Wang and Jiawei Han. Proceedings of The Web Conference (WWW) 2022. April 2022.</li><li>[3] <i>MEDTO: Medical Data to Ontology Matching using Hybrid Graph Neural Networks</i> <b>Junheng Hao</b>, Chuan Lei, Abdul Quamar, Vasilis Efthymiou, Fatma Ozcan, Yizhou Sun, Wei Wang. Proceedings of 27th ACM SIGKDD International Conference on Knowledge Discovery &amp; Data Mining (KDD, Applied Data Science Track). August 2021.</li><li>[4] <i>P-Companion: Framework for Diversified Complementary Product Recommendation</i> <b>Junheng Hao</b>, Tong Zhao, Jin Li, Luna Xin Dong, Christos Faloutsos, Yizhou Sun, Wei</li></ul>	

	Wang. Proceedings of the 29th ACM International Conference on Information and Knowledge Management (CIKM), Applied Research Track. October 2020. <a href="#">[Amazon Blog]</a>
	<p>[5] <i>Bio-JOIE: Joint Representation Learning of Biological Knowledge Bases</i>  <b>Junheng Hao</b>, Chelsea J.-T. Ju, Muhao Chen, Yizhou Sun, Carlo Zaniolo, Wei Wang. Proceedings of The 11th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM BCB 2020), September 2020. <b>Best Student Paper Award.</b></p> <p>[6] <i>Universal Representation Learning of Knowledge Bases by Jointly Embedding Instances and Ontological Concepts</i>  <b>Junheng Hao</b>, Muhao Chen, Wenchao Yu, Yizhou Sun, Wei Wang. Proceedings of 25th ACM SIGKDD International Conference on Knowledge Discovery &amp; Data Mining (KDD, Research Track). August 2019.</p> <p>[7] <i>EHIA: Empowering Homicide Analytics with MurderBook Knowledge Graphs and Domain-specific Language Models</i>  <b>Junheng Hao</b>, Jingyue Shen, Craig D. Uchida, Yizhou Sun, P. Jeffrey Brantingham, Wei Wang. Preprint, under review.</p> <p>[8] <i>KG-Doc: Hybrid Knowledge Graph Infused Document Representation Learning</i>  <b>Junheng Hao</b>, Chieh-Han Wu, Zhihong Shen, Boya Xie, Jennifer Neville, Ye-Yi Wang, Yizhou Sun, Wei Wang. Preprint.</p>
PATENT APPLICATIONS	[9] <i>OntoGNN: Hybrid Graph Neural Networks for Ontology Matching</i> . Chuan Lei, <b>Junheng Hao</b> , Vasilis Efthymiou, Fatma Ozcan, Abdul Quamar. U.S. Patent Application (Sept. 2021)
ACADEMIC SERVICES	<ul style="list-style-type: none"> <li>• <b>Conference Program Committee &amp; Reviewer:</b> NeurIPS, KDD, ICML, AAAI, WWW, ICLR, IJCAI, EMNLP, ACL Rolling Review, ICDE, SDM, WSDM, ECML-PKDD, CIKM.</li> <li>• <b>Journal Reviewer:</b> TPAMI, TBD, TIST, TKDD</li> <li>• <b>Conference Volunteer:</b> ICLR, KDD, EMNLP, NeurIPS.</li> </ul>
INVITED TALKS	<ul style="list-style-type: none"> <li>• Dec 2021: Coupang, Ranking, Discovery and Personalization. Invited tech talk: <i>Knowledge Graphs Meets Product Recommendation: One Deep Learning Solution.</i></li> <li>• Aug 2021: Microsoft Search, Assistant and Intelligence (MSAI). Graph learning session: <i>Knowledge Graph with Ontology Learning and Applications.</i></li> <li>• July 2019: Amazon, Product Graph. Invited talk: <i>Representation Learning on Knowledge Graphs: Embedding, Logic Rules and Graph Neural Networks</i> (with Yizhou Sun).</li> </ul>
HONORS AND AWARDS	<ul style="list-style-type: none"> <li>• <b>Best Student Paper Award</b> (ACM BCB) 2020</li> <li>• NAACL D&amp;I Subsidy Award, ACL DEI Grant 2022</li> <li>• SIGIR Student Travel Grant (CIKM) 2020, 2021</li> <li>• Student Travel Award (KDD) 2019, 2020</li> </ul>
TEACHING	<ul style="list-style-type: none"> <li>• CSM146: Introduction to Machine Learning (Winter 2021)</li> <li>• CS145: Introduction to Data Mining (Fall 2020, Fall 2018)</li> <li>• CS32: Introduction to Computer Science II, Data Structures (Spring 2019, Winter 2019)</li> </ul>
SKILLS	<ul style="list-style-type: none"> <li>• <b>Programming:</b> Python (PyTorch, TensorFlow), C/C++, L<sup>A</sup>T<sub>E</sub>X, MATLAB, SQL</li> <li>• <b>Language:</b> Mandarin (Native), English (Proficient), Spanish (Basic)</li> </ul>