Karl Pichotta

Email: karlpichotta@gmail.com
url: http://kpich.com

Education

2017   PhD, Computer Science, University of Texas at Austin.
2013   MS, Computer Science, University of Texas at Austin.
2008   BS, Symbolic Systems (Honors), Minor in Mathematics, Stanford University.

Research Interests

Natural language processing, computational oncology, machine learning.

Publications

Conference and Journal Proceedings

2022   Nathaniel C. Swinburne, Vivek Yadav, Julie Kim, Ye R. Choi, David C. Gutman, Jonathan T. Yang, Nelson Moss, Jacqueline Stone, Jamie Tisnado, Vaios Hatzoglou, Sofia S. Haque, Sasan Karimi, John Lyo, Krishna Juluru, Karl Pichotta, Jianjiong Gao, Sohrab P. Shah, Andrei I. Holodny, Robert J. Young, MSK MIND Consortium. Semisupervised Training of a Brain MRI Tumor Detection Model Using Mined Annotations. *Radiology (2022):210817.*

2021   Eric Lehman, Sarthak Jain, Karl Pichotta, Yoav Goldberg and Byron C. Wallace. Does BERT Pretrained on Clinical Notes Reveal Sensitive Data? *Proceedings of the 2021 Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL-21).*

2019   Yonatan Bisk, Jan Buys, Karl Pichotta, and Yejin Choi. Benchmarking Hierarchical Script Knowledge. *Proceedings of the 2019 Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL-19).*

2018   Wesley Tansey, Karl Pichotta, and James G. Scott. Leaf-Smoothed Hierarchical Softmax for Ordinal Prediction. *Proceedings of the 32nd AAAI Conference on Artificial Intelligence (AAAI-18).*

2016   Karl Pichotta and Raymond J. Mooney. Using Sentence-Level LSTM Language Models for Script Inference. *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (ACL-16).*

2016   Karl Pichotta and Raymond J. Mooney. Learning Statistical Scripts With LSTM Recurrent Neural Networks. *Proceedings of the 30th AAAI Conference on Artificial Intelligence (AAAI-16)*.

2014   Karl Pichotta and Raymond J. Mooney. Statistical Script Learning with Multi-Argument Events. *Proceedings of the 14th Conference of the European Chapter of the Association for Computational Linguistics (EACL 2014)*.

2013   Karl Pichotta and John DeNero. Identifying Phrasal Verbs Using Many Bilingual Corpora. *Proceedings of the 2013 Conference on Empirical Methods in Natural Language Processing (EMNLP 2013)*.

2012   Vladimir Lifschitz, Karl Pichotta and Fangkai Yang. Relational Theories with Null Values and Non-Herbrand Stable Models. *Theory and Practice of Logic Programming*, 12(4-5):565-582. 2012.

Workshop Proceedings

2022   Karl Pichotta and Wesley Tansey. Zero-Shot Prediction of Drug Combination Activity for High-Throughput Screens. 2022 ICML Workshop on Computational Biology.

2016   Karl Pichotta and Raymond J. Mooney. Statistical Script Learning with Recurrent Neural Networks. Workshop on Uphill Battles in Natural Language Processing at EMNLP 2016.

Theses

2017   Karl Pichotta. Advances in Statistical Script Learning. PhD Thesis, Department of Computer Science, The University of Texas at Austin. 2017.

2008   Karl Pichotta. Processing Paraphrases and Phrasal Implicatives in the Bridge Question-Answering System. Undergraduate Honors Thesis, Symbolic Systems Program, Stanford University. 2008.

Posters and Abstracts

2024   Anneliese Markus, Karl Pichotta, Jeffrey Quinn, Jessica White, Christopher Tosh, Jinrui Liu, Erin Coyne, Wesley Tansey. A pan-cancer ex vivo drug screen database for next-generation pharmacogenomics and functional precision oncology. Annual meeting of the American Association for Cancer Research (AACR). 2024.

2024   Thinh N. Tran, Chris Fong, Karl Pichotta, Anisha Luthra, Ronglai Shen, Yuan Chen, Michele Waters, Susie Kim, Gregory Riely, Debyani Chakravarty, Nikolaus Schultz, Justin Jee. AI-derived predictions improve identification of real-world cancer driver mutations. Annual meeting of the American Association for Cancer Research (AACR). 2024.

2024 Christopher Fong, Karl Pichotta, Thinh Tran, Michele Waters, Tom Fu, Mono Pirun, Mirella Altoe, Brooke Mastrogiacomo, Arfath Pasha, Armaan Kohli, Raymond Lim, Tom Pollard, Darin Moore, Benjamin Gross, Avery Wang, Calla Chennault, Ritika Kundra, Ramya Madupuri, Ino de Bruijn, Aaron Lisman, Walid Chatila, Subhi Nandakumar, Doori Rose, Kenneth Kehl, Deborah Schrag, Michael Berger, Jian Carrot-Zhang, Pedram Razavi, Bob Li, Pete Stetson, Justin Jee, Nikolaus Schultz. Systematic Generation of a Clinicogenomic Harmonized Oncologic Real-world Dataset (MSK-CHORD). Annual meeting of the American Association for Cancer Research (AACR). 2024.

2023 Justin Jee, Chris Fong, Karl Pichotta, Thinh Tran, Anisha Luthra, Mirella Altoe, Steven Maron, Ronglai Shen, Si-Yang Liu, Michele Waters, Joseph Kholodenko, Brooke Mastrogiacomo, Susie Kim, A. Rose Brannon, Michael F Berger, Axel Martin, Jason Chang, Anton Safonov, Jorge S. Reis-Filho, Deborah Schrag, Sohrab P. Shah, Pedram Razavi, Bob T Li, Gregory J Riely, Nikolaus Schultz. Automated annotation for large-scale clinicogenomic models of lung cancer treatment response and overall survival. Annual meeting of the American Association for Cancer Research (AACR). Oral Presentation. 2023.

2023 Thinh N. Tran, Karl B. Pichotta, Si-Yang Liu, Christopher Fong, Anisha Luthra, Brooke Mastrogiacomo, Steven Maron, Deborah Schrag, Sohrab P. Shah, Pedram Razavi, Bob T. Li, Gregory J. Riely, Nikolaus Schultz, Justin Jee. Identification of anti-neoplastic therapy given before initial visit at a referral center using natural language processing applied to medical oncology initial consultation notes. Annual meeting of the American Association for Cancer Research (AACR). Poster Presentation. 2023.

2022 Anisha Luthra, Karl Pichotta, Brooke Mastrogiacomo, Samantha McCarthy, Steven Maron, Jianjiong Gao, Justin Jee, Christopher J. Fong, Nikolaus Schultz. A.I.-Assisted Clinical Data Curation to Determine Genomic Biomarkers of Cancer Metastasis. Annual meeting of the American Association for Cancer Research (AACR). Oral Presentation. 2022.

Honors, Awards, & Fellowships

2021 Outstanding Reviewer Award, ACL-IJCNLP 2021.

2010 Microelectronics and Computer Development (MCD) Fellowship, University of Texas at Austin.

2006 Summer Research Fellowship, Stanford University.

2004 Robert C. Byrd Honors Scholarship.

2004 National Merit Scholarship.

Teaching

Stanford University

2006-2008 Section Leader, Programming Methodology & Programming Abstractions: Fall 2006–Spring 2008.

Research and Industry Positions

2020– Memorial Sloan Kettering Cancer Center, Senior Computational Biologist.
ML/NLP for Computational Oncology.

2018–2020 Google, Software Engineer.
Semantic parsing for search.

2014 Google, PhD Intern.
Machine learning for natural language processing.

2012 Google, PhD Intern.
Machine learning for natural language processing.

2008–2010 Versay Solutions, Software Engineer.
Voice interfaces; natural language processing for application analytics.

2008 SRI Artificial Intelligence Center, Student Associate.
Automatic text summarization.

2007 PARC (Palo Alto Research Center) Natural Language Theory and Technology Group, Research Intern.
Implementation of certain classes of textual entailment in large NLP system.

2006 Stanford University Electrical Engineering Department, Research Assistant.
Automatic detection of lightning events from atmospheric data.

2005 Motorola, Intern.
Radio network infrastructure software engineering.

2004 Motorola, Intern.
Large-scale simulation of communications infrastructure.

Professional Activities

2022 Program Committee: ARR 2022.

2021 Program Committee: ARR 2021, ACL-IJCNLP 2021, WNU 2021, UnImplicit 2021, BlackBoxNLP 2021. Ethics Committee: NAACL 2021.

2020 Program Committee: ACL 2020, NUSE 2020.

2019   Program Committee: EMNLP 2019, *SEM 2019, WNU 2019, NAACL 2019.

2018   Program Committee: ACL 2018, AAAI 2018, LREC 2018, Gen-Deep18 workshop at NAACL, COLING 2018.

2017   Program Committee: ACL 2017, IJCNLP 2017. Secondary Reviewer: EACL 2017, IJCAI 2017.

2016   Program Committee: COLING 2016, AAAI 2016.

2015   Program Committee: EMNLP 2015.

Secondary Reviewer: AAAI 2015.

2008   Secondary Reviewer: ICAPS 2008.