

Gene Louis Kim

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Research Interests

Natural Language Understanding: Knowledge Representation & Inference, Computational Semantics, Information Extraction, and Bias in AI

Employment

- Aug. 2022-present **University of South Florida**
Assistant Professor, Computer Science and Engineering
- Dec. 2021-Aug. 2022 **University of South Florida**
Visiting Assistant Professor, Computer Science and Engineering

Education

- 2017-2022 **Ph.D.** in Computer Science
University of Rochester
Thesis: [Corpus Annotation, Parsing, and Inference for Episodic Logic Type Structure](#)
Advisor: Lenhart Schubert
- 2015-2017 **M.S.** in Computer Science
University of Rochester
Advisor: Lenhart Schubert
- 2011-2015 **B.S.** in Computer Science
University of Washington
Magna Cum Laude

Awards & Grants

- 2023 *Outstanding Reviewer*, The 61st Annual Meeting of the Association for Computational Linguistics
- 2018 *Heidelberg Laureate Forum Young Researcher*
1 of 200 young researchers worldwide selected to attend the forum on September 23-28, 2018.
- 2017 *Outstanding TA Award*, University of Rochester
- 2017 *Travel Grant*, by the National Science Foundation (NSF), for attending Computational Semantics Beyond Events and Roles Workshop (SemBEaR)
- 2015-2017 *Robert L. and Mary L. Sproull Fellowship*, University of Rochester
*The most prestigious fellowship awarded by the University of Rochester.

Teaching

UNIVERSITY OF SOUTH FLORIDA

- Spring 2024 **Instructor**, *Graduate* Operating Systems (COP 6611)
- Fall 2023 **Instructor**, *Undergraduate* Introduction to Artificial Intelligence (CAP 4621)
- Spring 2023 **Instructor**, *Graduate* Operating Systems (COP 6611)
- Fall 2022 **Instructor**, *Undergraduate* Introduction to Artificial Intelligence (CAP 4621)
- Summer 2022 **Instructor**, *Undergraduate* Operating Systems (COP 4600)
- Spring 2022 **Instructor**, Ethical Issues and Professional Conduct (CIS 4250)

UNIVERSITY OF ROCHESTER

- Spring 2021 **Inclusive Computing Research Program Mentor**
- Fall 2016; Fall 2017-pres. **Student Research Mentor**
Helped orient research goals and interpret progress for undergraduate and master's students.
Supervisor: Lenhart Schubert
- Spring 2021 **Teaching Assistant**, Machines and Consciousness (CSC 191/291)
Supervisor: Lenhart Schubert
- 2018 **Master Teaching Assistant**
Taught the graduate TA orientation workshop for the CS and EE departments with guidance from the university's Center for Excellence in Teaching & Learning.
- Fall 2017 **Teaching Assistant**, Computational Introduction to Statistics (CSC 262/462)
Supervisor: Anthony Almudevar
- Spring 2017 **Teaching Assistant**, Machines and Consciousness (CSC 191/291)
Supervisor: Lenhart Schubert
- Fall 2016 **Teaching Assistant**, Logical Foundations of Artificial Intelligence (CSC 244/444)
Supervisor: Lenhart Schubert

UNIVERSITY OF WASHINGTON

- Fall 2014 **Teaching Assistant**, Programming Languages and Implementation (CSE 413)
Supervisor: Hal Perkins
- Spring 2013 **Teaching Assistant**, Data Structures and Algorithms (CSE 373)
Supervisor: Linda Shapiro

Talks, Symposiums, & Panels

- April 12, 2024 **Ethics of AI in Ed: Five Humans and ChatGPT Discuss**, Symposium Panel Member, American Educational Research Association (AERA) Annual Meeting, Philadelphia
- April 1, 2024 **Language GRASP Lab Research in Large Language Models**, Invited Talk, University of South Florida, Graduate Research Seminar, Department of Industrial and Management Systems Engineering

Sept. 29, 2023 **Investigating Lesser-Known and Subtler Biases in LLMs**, Research Presentation, University of South Florida, AI+X Symposium

June 14, 2022 **Corpus Annotation, Parsing, and Inference for Episodic Logic Type Structure**, Invited Talk, Interactions between Formal and Computational Linguistics (ILFC) Monthly Seminar

Service & Mentorship

PRIMARY ADVISING

expected 2028 Abdullah Al-Monsur, PhD in Computer Science, University of South Florida

expected 2027 Mahammad Kamruzzaman, PhD in Computer Science, University of South Florida

MASTER'S STUDENT RESEARCH MENTORSHIP

2024-present Sai Durga Shashidhar Pothukuchi, MS computer Science Student, University of South Florida

2022-present Maneesh Reddy Chamakura, MS Computer Science Student, University of South Florida

UNDERGRADUATE STUDENT RESEARCH MENTORSHIP

2024-present Kenneth Verzyl, Computer Science Student, University of South Florida

2024-present Jason Rudinsky, Computer Science Student, University of South Florida

2024-present Fiorella Andrea Ratti Tamayo, Computer Science Student, University of South Florida

2024-present Shrabon Das, Computer Science Student, University of South Florida

2023-present Adam Brohl, Computer Science Student, Knox College

2022-present Jeremy Rutter, Computer Science Student, University of South Florida

2023-2024 Justin Delgado, Computer Science Student, University of South Florida

2022-2024 Suryakanth Prasad Gottipati, Computer Science Student, University of South Florida

2022-2023 Omar Abdulrahman, Computer Science Student, University of South Florida

2022 Taylor Tiedge, Computer Science Student, University of South Florida

NON-RESEARCH MENTORSHIP

2024-present Phong Tran, UG in Computer Science, Department Faculty Mentor, University of South Florida

THESIS COMMITTEES

ongoing Md. Sadman Sakib, PhD in Computer Science, University of South Florida

ongoing Animesh Nighojkar, PhD in Computer Science, University of South Florida

ongoing Zaid Marji, PhD in Computer Science, University of South Florida

OTHER UNIVERSITY SERVICE

2024 **Graduate Student Research Symposium Judge**, University of South Florida

2022-2024 **Graduate Affairs Committee Member**, University of South Florida Department of Computer Science and Engineering

2022, 2023 **Hackabull Hackathon Judge**, University of South Florida
2017-2021 **Big Picture Talk Series Organizer**, University of Rochester Computer Science Department
2018-2019 **Graduate Student Representative**, University of Rochester Computer Science Department
2016-2017 **Events Committee Member**, University of Rochester Computer Science Department

CONFERENCE PROGRAM COMMITTEES

2022 **Area Chair**, *SEM Theoretical and Formal Semantics track
2018 **Program Committee Member**, Mid-Atlantic Student Colloquium on Speech, Language and Learning (MASC-SLL)

JOURNAL REVIEWING

2023 Journal of Logic Language and Information (JOLLI), Special Issue

CONFERENCE REVIEWING

ACL Rolling Review (ARR 2022-present)
Annual Meeting of the Association for Computational Linguistics (ACL 2020,2022,2023)
Conference of the European Chapter of the Association for Computational Linguistics (EACL 2021)
Conference on Empirical Methods in Natural Language Processing (EMNLP 2020)
International Conference on Computational Linguistics (COLING 2020)
International Conference on Computational Semantics (IWCS 2021,2023)

OUTREACH

Spring 2024 **Guest Expert on AI**, Carrollwood Day School, Fifth Grade Exhibition Unit of Inquiry Focusing on Artificial Intelligence

Resources Developed

BanMANI. A semi-automatically collected dataset of manipulated news in social media in Bangla [3].

ULF v1.0. Manually annotated sentences in unscoped episodic logical forms [8].

ULF Transition Parser. A transition system-based neural ULF parser for English sentences [8].

ULF Annotation Suite. An online annotation interface, an in-depth annotation guideline, and a ULF sanity checker were developed to facilitate the corpus annotation project currently underway. The guidelines and interface are designed to reduce annotator errors by minimizing the number of major edits made in the annotation process.

Forward Inference Annotation Interface. An online annotation interface for gathering human inferences from sentences. The interface is parameterized by linguistic phenomena so that the annotator resources are tailored to the complexities at hand.

Professional Experience

- Summer 2019 **Software Engineering Intern**, *Facebook*, Seattle, WA
Mentor: Xiaochang Peng
Developed and evaluated a variety of multi-modal hate speech classifiers leading to improvements on examples with accompanying images and/or classification metadata.
- Summer 2017 **Software Engineering Intern**, *Google*, Mountain View, CA
Mentor: Ni Lao
Developed a QA model that scales to large texts by storing symbolic semantics of mentions generated by LSTMs in a key-value store which is trained using REINFORCE.
- Summer 2014 **Software Engineering Intern**, *Google*, Seattle, WA
Mentor: Donghwan Jeon
Undergraduate internship building a system that processes and displays product usage information at customer-level granularity.
- Summer 2013 **Software Engineering Intern**, *Whitepages, Inc.*, Seattle, WA
Mentor: Paul Kohan
Undergraduate internship building a system that aggregates and stores metadata of user-generated content.

Refereed Publications

- [1] Jeremy Rutter, Maneesh Chamakura, Justin Delgado, and Gene Louis Kim. Finetuning LLMs for automatic concept to TTI prompt generation (student abstract). *Proceedings of the AAAI Conference on Artificial Intelligence*, 2024.
- [2] Gene Louis Kim, Mandar Juvekar, Junis Ekmekciu, Viet Duong, and Lenhart Schubert. Monotonic inference with unscoped episodic logical forms: From principles to system. *Journal of Logic, Language and Information*, Nov 2023.
- [3] Mahammed Kamruzzaman, Md. Minul Islam Shovon, and Gene Kim. BanMANI: A dataset to identify manipulated social media news in Bangla. In Amal Haddad Haddad, Ayla Rigouts Terryn, Ruslan Mitkov, Reinhard Rapp, Pierre Zweigenbaum, and Serge Sharoff, editors, *Proceedings of the Workshop on Computational Terminology in NLP and Translation Studies (ConTeNTS) Incorporating the 16th Workshop on Building and Using Comparable Corpora (BUCC)*, pages 51–58, Varna, Bulgaria, September 2023. INCOMA Ltd., Shoumen, Bulgaria.
- [4] Mahammed Kamruzzaman and Gene Kim. Efficient sentiment analysis: A resource-aware evaluation of feature extraction techniques, ensembling, and deep learning models. In Lun-Wei Ku and Cheng-Te Li, editors, *Proceedings of the 11th International Workshop on Natural Language Processing for Social Media*, pages 9–20, Bali, Indonesia, November 2023. Association for Computational Linguistics.
- [5] Mandar Juvekar, Gene Kim, and Lenhart Schubert. Semantically informed data augmentation for unscoped episodic logical forms. In Maxime Amblard and Ellen Breitholtz, editors, *Proceedings of the 15th International Conference on Computational Semantics*, pages 116–133, Nancy, France, June 2023. Association for Computational Linguistics.
- [6] Gene Louis Kim and Aaron Steven White. Montague grammar induction. In *Proceedings of the Semantics and Linguistic Theory 30*, pages 227–251, 2021.
- [7] Gene Louis Kim, Mandar Juvekar, Junis Ekmekciu, Viet Duong, and Lenhart Schubert. A (mostly) symbolic system for monotonic inference with unscoped episodic logical forms. In

- Proceedings of the 1st and 2nd Workshops on Natural Logic Meets Machine Learning (NALOMA)*, pages 71–80, Groningen, the Netherlands (online), June 2021. Association for Computational Linguistics.
- [8] Gene Louis Kim, Viet Duong, Xin Lu, and Lenhart Schubert. A transition-based parser for unscoped episodic logical forms. In *Proceedings of the 14th International Conference on Computational Semantics (IWCS)*, pages 184–201, Groningen, The Netherlands (online), June 2021. Association for Computational Linguistics.
 - [9] Gene Kim, Mandar Juvekar, and Lenhart Schubert. Monotonic inference for underspecified episodic logic. In *Proceedings of the Workshop on Natural Logic Meets Machine Learning (NALOMA)*, pages 26–40, Waltham, USA, July 2020. Association for Computational Linguistics.
 - [10] Gene Louis Kim and Lenhart Schubert. A type-coherent, expressive representation as an initial step to language understanding. In *Proceedings of the 13th International Conference on Computational Semantics - Long Papers*, pages 13–30, Gothenburg, Sweden, May 2019. Association for Computational Linguistics.
 - [11] Gene Louis Kim, Lane Lawley, and Lenhart Schubert. Towards natural language story understanding with rich logical schemas. In *Proceedings of the Sixth Workshop on Natural Language and Computer Science*, pages 11–22, Gothenburg, Sweden, May 2019. Association for Computational Linguistics.
 - [12] Gene Kim, Benjamin Kane, Viet Duong, Muskaan Mendiratta, Graeme McGuire, Sophie Sackstein, Georgiy Platonov, and Lenhart Schubert. Generating discourse inferences from unscoped episodic logical formulas. In *Proceedings of the First International Workshop on Designing Meaning Representations*, pages 56–65, Florence, Italy, August 2019. Association for Computational Linguistics.
 - [13] Gene Kim and Lenhart Schubert. Intension, attitude, and tense annotation in a high-fidelity semantic representation. In *Proceedings of the Workshop Computational Semantics Beyond Events and Roles*, pages 10–15, Valencia, Spain, April 2017. Association for Computational Linguistics.
 - [14] Gene Kim and Lenhart Schubert. High-fidelity lexical axiom construction from verb glosses. In *Proceedings of the Fifth Joint Conference on Lexical and Computational Semantics*, pages 34–44, Berlin, Germany, August 2016. Association for Computational Linguistics.
 - [15] Konstantin Weitz, Siwakorn Srisakaokul, Gene Kim, and Michael D. Ernst. A format string checker for java. In *Proceedings of the 2014 International Symposium on Software Testing and Analysis*, ISSTA 2014, pages 441–444, New York, NY, USA, 2014. ACM.
 - [16] Konstantin Weitz, Gene Kim, Siwakorn Srisakaokul, and Michael D. Ernst. A type system for format strings. In *Proceedings of the 2014 International Symposium on Software Testing and Analysis*, ISSTA 2014, pages 127–137, New York, NY, USA, 2014. ACM.

Unrefereed Publications

- [17] Stephen Soderland, Natalie Hawkins, Gene Kim, and Dan S. Weld. University of Washington system for 2015 KBP cold start slot filling. In *Text Analysis Conference (TAC) KBP*, November 2015.