# **Daniel Fried**

CONTACT INFORMATION	dfried@cs.cmu.edu dpfried.github.io	
Positions	Assistant Professor, Carnegie Mellon University Language Technologies Institute, School of Computer Science	2022 – present
	Research Scientist, Meta Currently 20% time	2024 – present
	Research Consultant, GitHub Next 20% time	2023 – 2024
EDUCATION	UC Berkeley Ph.D. in Computer Science Adviser: Dan Klein Thesis: Learning Grounded Pragmatic Communication	2015 – 2021
	University of Cambridge, Churchill College M.Phil. in Computer Science, with distinction Adviser: Stephen Clark Thesis: Low Rank Tensor Approximations for Compositional Distributional Semant	2014 – 2015 tics
	University of Arizona B.S. in Computer Science, Mathematics, and Information Science, summa cum laude Thesis Adviser: Mihai Surdeanu Thesis: Predicting Community Traits Using the Language of Food on Social Media	2010 – 2014
FORMER POSITIONS	<b>Postdoc</b> , University of Washington <i>Host</i> : Luke Zettlemoyer	2021 – 2022
	Visiting Researcher, Facebook AI Research Host: Mike Lewis	2021 – 2022
	<b>Research Intern</b> , Google DeepMind  Hosts: Aida Nematzadeh, Stephen Clark, Chris Dyer  Project: Structured models for language-conditioned video segmentation	Summer 2019
	<b>Research Intern</b> , Microsoft Research  Hosts: Hoifung Poon, Chris Quirk, Kristina Toutanova, Scott Wen-Tau Yih  Project: Learning to rank for personalized medicine	Summer 2016
	Undergraduate Research Assistant, University of Arizona  Advisers: Mihai Surdeanu, Stephen Kobourov, Paul R. Cohen  Areas: Question answering, language grounding, data visualization	2012 – 2014
	<b>Research Intern</b> , Nara Institute of Science and Technology <i>Host</i> : Kevin Duh <i>Project</i> : Incorporating relational semantics in word embeddings	Fall 2013
	Research Intern, RWTH Aachen University  Hosts: Ali Jannesari, Zhen Li  Project: Supervised learning for automatic code parallelization	Summer 2013
	Engineering Intern, Microsoft  Project: Data warehousing, analytics, and visualization for Xbox Live	Summer 2012

Honors &	Okawa Research Award	2023
AWARDS	Google Ph.D. Fellowship in Natural Language Processing	2019 - 2021
	Outstanding Graduate Student Instructor, UC Berkeley	2018
	Outstanding Reviewer, ACL	2018, 2020, 2021, 2022
	Outstanding Reviewer, NeurIPS	2019
	Best M.Phil. Student Award, Cambridge Computer Laboratory	2015
	Churchill Scholarship	2014 - 2015
	NDSEG Fellowship	2014
	Finalist, Hertz Graduate Fellowship	2014
	Outstanding Senior Award in Research, U. Arizona College of Science	2014
	Outstanding Senior Award in Academics, U. Arizona Computer Science	2014
	Outstanding Senior Award in Academics, U. Arizona Information Science	2014
	Barry M. Goldwater Scholarship	2013
	National Merit Scholar	2010 - 2014
	Flinn Scholarship, Flinn Foundation of Arizona	2010 - 2014
	Presidential Scholar, U.S. Department of Education	2010

#### **JOURNAL PUBLICATIONS**

# 1. Tree Search for Language Model Agents

Jing Yu Koh, Stephen McAleer, <u>Daniel Fried</u>, and Ruslan Salakhutdinov *Transactions on Machine Learning Research (TMLR)*, 2025

### 2. StarCoder: May the Source Be With You!

Raymond Li et al. (68 authors from the BigCode Project) *Transactions on Machine Learning Research (TMLR)*, 2023

# 3. Human-Level Play in the Game of Diplomacy by Combining Language Models with Strategic Reasoning

FAIR Diplomacy Team *Science*, 2022

#### 4. Syntactic Structure Distillation Pretraining for Bidirectional Encoders

Adhiguna Kuncoro\*, Lingpeng Kong\*, <u>Daniel Fried</u>\*, Dani Yogatama, Laura Rimell, Chris Dyer, and Phil Blunsom

Transactions of the Association for Computational Linguistics (TACL), 2020

#### 5. Higher-Order Lexical Semantic Models for Non-Factoid Answer Reranking

<u>Daniel Fried</u>, Peter Jansen, Gustave Hahn-Powell, Mihai Surdeanu, and Peter Clark *Transactions of the Association for Computational Linguistics (TACL)*, 2015

#### CONFERENCE PUBLICATIONS

# 6. Identifying and Interactively Refining Ambiguous User Goals for Data Visualization Code Generation

Mert Inan, Anthony Sicilia, Alex Xie, Saujas Vaduguru, <u>Daniel Fried</u>, and Malihe Alikhani *Empirical Methods in Natural Language Processing (EMNLP)*, 2025

### 7. Rewarding the Unlikely: Lifting GRPO Beyond Distribution Sharpening

Andre He, Daniel Fried, and Sean Welleck

Empirical Methods in Natural Language Processing (EMNLP), 2025

### 8. mrCAD: Multimodal Refinement of Computer-aided Designs

William P. McCarthy, Saujas Vaduguru, Karl D. D. Willis, Justin Matejka, Judith E. Fan, <u>Daniel Fried</u>, and Yewen Pu

Findings of EMNLP, 2025

#### 9. Inducing Programmatic Skills for Agentic Tasks

Zora Zhiruo Wang, Apurva Gandhi, Graham Neubig, <u>Daniel Fried</u> Conference on Language Modeling (COLM), 2025

#### 10. RepoST: Scalable Repository-Level Coding Environment Construction with Sandbox Testing

Yiqing Xie, Alex Xie, Divyanshu Sheth, Pengfei Liu, <u>Daniel Fried</u>, Carolyn Rose *Conference on Language Modeling (COLM)*, 2025

### 11. Improving Model Factuality with Fine-grained Critique-based Evaluator

Yiqing Xie, Wenxuan Zhou, Pradyot Prakash, Di Jin, Yuning Mao, Quintin Fettes, Arya Talebzadeh, Sinong Wang, Han Fang, Carolyn Rose, <u>Daniel Fried</u>, and Hejia Zhang *Annual Meeting of the Association for Computational Linguistics (ACL)*, 2025

### 12. Agent Workflow Memory

Zora Zhiruo Wang, Jiayuan Mao, <u>Daniel Fried</u>, and Graham Neubig *ICML*, 2025

### 13. Dynamic Coalition Structure Detection in Natural Language-based Interactions

Abhishek N. Kulkarni\*, Andy Liu\*, Jean-Raphael Gaglione, <u>Daniel Fried</u>, and Ufuk Topcu *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2025

### 14. AutoPresent: Designing Structured Visuals from Scratch

Jiaxin Ge\*, Zora Zhiruo Wang\*, Xuhui Zhou, Yi-Hao Peng, Sanjay Subramanian, Qinyue Tan, Maarten Sap, Alane Suhr\*\*, <u>Daniel Fried</u>\*\*, Graham Neubig\*\*, and Trevor Darrell\*\*

Conference on Computer Vision and Pattern Recognition (CVPR), 2025

# 15. CRScore: Grounding Automated Evaluation of Code Review Comments in Code Claims and Smells

Atharva Naik, Marcus Alenius, <u>Daniel Fried</u>, and Carolyn Rose North American Chapter of the Association for Computational Linguistics (NAACL), 2025

## 16. CodeRAG-Bench: Can Retrieval Augment Code Generation?

Zora Zhiruo Wang\*, Akari Asai\*, Xinyan Velocity Yu, Frank F. Xu, Yiqing Xie, Graham Neubig, and Daniel Fried

Findings of NAACL, 2025

# 17. BigCodeBench: Benchmarking Code Generation with Diverse Function Calls and Complex Instructions

Terry Yue Zhuo et al. (33 authors from the BigCode project) *International Conference on Learning Representations (ICLR)*, 2025

#### 18. Human-Aligned Chess with a Bit of Search

Yiming Zhang, Athul Paul Jacob, Vivian Lai, <u>Daniel Fried</u>, and Daphne Ippolito *International Conference on Learning Representations (ICLR)*, 2025

#### 19. Repetition Improves Language Model Embeddings

Jacob Mitchell Springer, Suhas Kotha, <u>Daniel Fried</u>, Graham Neubig, and Aditi Raghunathan *International Conference on Learning Representations (ICLR)*, 2025

#### 20. Dissecting Adversarial Robustness of Multimodal LM Agents

Chen Henry Wu, Rishi Shah, Jing Yu Koh, Ruslan Salakhutdinov, <u>Daniel Fried</u>, and Aditi Raghunathan

International Conference on Learning Representations (ICLR), 2025

## 21. Comparative Knowledge Distillation

Alex Tianyi Xu\*, Alex Wilf\*, Paul Pu Liang, Alexander Obolenskiy, <u>Daniel Fried</u>, and Louis-Philippe Morency

Winter Conference on Applications of Computer Vision (WACV), 2024

# 22. ECCO: Can We Improve Model-Generated Code Efficiency Without Sacrificing Functional Correctness?

Siddhant Waghjale\*, Vishruth Veerendranath\*, Zora Zhiruo Wang, and <u>Daniel Fried</u> *Empirical Methods in Natural Language Processing (EMNLP)*, 2024

#### 23. What Are Tools Anyway? A Survey from the Language Model Perspective

Zora Zhiruo Wang, Zhoujun Cheng, Hao Zhu, <u>Daniel Fried</u>, and Graham Neubig Conference on Language Modeling (COLM), 2024

# 24. Human-Agent Cooperation in Games under Incomplete Information through Natual Language Communication

Shenghui Chen, <u>Daniel Fried</u>, and Ufuk Topcu International Joint Conference on Artificial Intelligence (IJCAI), 2024

#### 25. Evaluating Large Language Model Biases in Person-Steered Generation

Andy Liu, Mona T. Diab, and <u>Daniel Fried</u> *Findings of ACL*, 2024

# 26. Is the Pope Catholic? Yes, the Pope is Catholic. Generative Evaluation of Intent Resolution in LLMs

Akhila Yerukola, Saujas Vaduguru, <u>Daniel Fried</u>, and Maarten Sap *Annual Meeting of the Association for Computational Linguistics (ACL)*, 2024

### 27. VisualWebArena: Evaluating Multimodal Agents on Realistic Visual Web Tasks

Jing Yu Koh, Robert Lo\*, Lawrence Jang\*, Vikram Duvvur\*, Ming Chong Lim\*, Po-Yu Huang\*, Graham Neubig, Shuyan Zhou, Ruslan Salakhutdinov, and <u>Daniel Fried</u>

Annual Meeting of the Association for Computational Linguistics (ACL), 2024

#### 28. TroVE: Inducing Verifiable and Efficient Toolboxes for Solving Programmatic Tasks

Zhiruo Wang, Graham Neubig, and <u>Daniel Fried</u> *International Conference on Machine Learning (ICML)*, 2024

## 29. Amortizing Pragmatic Program Synthesis with Rankings

Yewen Pu, Saujas Vaduguru, Priyan Vaithilingam, Elena Glassman, and <u>Daniel Fried</u> *International Conference on Machine Learning (ICML)*, 2024

### 30. Asking More Informative Questions for Grounded Retrieval

Sedrick Keh, Justin T. Chiu, and <u>Daniel Fried</u> *Findings of NAACL*, 2024

# 31. Generating Pragmatic Examples to Train Neural Program Synthesizers

Saujas Vaduguru, <u>Daniel Fried</u>, and Yewen Pu International Conference on Learning Representations (ICLR), 2024

### 32. Sotopia: Interactive Evaluation for Social Intelligence in Language Agents

Xuhui Zhou\*, Hao Zhu\*, Leena Mathur, Ruohong Zhang, Haofei Yu, Zhengyang Qi, Louis-Philippe Morency, Yonatan Bisk, <u>Daniel Fried</u>, Graham Neubig, and Maarten Sap *International Conference on Learning Representations (ICLR)*, 2024

#### 33. WebArena: A Realistic Web Environment for Building Autonomous Agents

Shuyan Zhou\*, Frank Xu\*, Hao Zhu\*\*, Xuhui Zhou\*\*, Robert Lo\*\*, Abishek Sridhar\*\*, Xianyi Cheng, Yonatan Bisk, <u>Daniel Fried</u>, Uri Alon, and Graham Neubig *International Conference on Learning Representations (ICLR)*, 2024

#### 34. API-Assisted Code Generation for Question Answering on Varied Table Structures

Yihan Cao\*, Shuyi Chen\*, Ryan Liu\*, Zhiruo Wang, and <u>Daniel Fried</u> *Empirical Methods in Natural Language Processing (EMNLP)*, 2023

### 35. Symbolic Planning and Code Generation for Grounded Dialogue

Justin Chiu, Wenting Zhao, Derek Chen, Saujas Vaduguru, Alexander Rush, and <u>Daniel Fried</u> Empirical Methods in Natural Language Processing (EMNLP), 2023

## 36. Pragmatics in Language Grounding: Phenomena, Tasks, and Modeling Approaches

<u>Daniel Fried</u>\*, Nicholas Tomlin\*, Jennifer Hu, Roma Patel, and Aida Nematzadeh *Findings of EMNLP*, 2023

# 37. Execution-Based Evaluation for Open-Domain Code Generation

Zhiruo Wang, Shuyan Zhou, <u>Daniel Fried</u>, and Graham Neubig *Findings of EMNLP*, 2023

# 38. Data Augmentation for Code Translation with Comparable Corpora and Multiple References

Yiqing Xie, Atharva Naik, <u>Daniel Fried</u>, Carolyn Rose *Findings of EMNLP*, 2023

#### 39. AutoReply: Detecting Nonsense in Dialogue Introspectively with Discriminative Replies

Weiyan Shi, Emily Dinan, Adi Renduchintala, <u>Daniel Fried</u>, Athul Paul Jacob, Zhou Yu, and Mike Lewis

Findings of EMNLP, 2023

#### 40. Generating Images with Multimodal Language Models

Jing Yu Koh, <u>Daniel Fried</u>, and Ruslan Salakhutdinov *Neural Information Processing Systems (NeurIPS)*, 2023

#### 41. Pragmatic Inference with a CLIP Listener for Contrastive Captioning

Jiefu Ou, Benno Krojer, and <u>Daniel Fried</u> *Findings of ACL*, 2023

#### 42. Contrastive Decoding: Open-ended Text Generation as Optimization

Xiang Lisa Li, Ari Holtzman, <u>Daniel Fried</u>, Percy Liang, Jason Eisner, Tatsunori Hashimoto, Luke Zettlemoyer, and Mike Lewis

Annual Meeting of the Association for Computational Linguistics (ACL), 2023

### 43. Grounding Language Models to Images for Multimodal Inputs and Outputs

Jing Yu Koh, Ruslan Salakhutdinov, and <u>Daniel Fried</u> *International Conference on Machine Learning (ICML)*, 2023

#### 44. Coder Reviewer Reranking for Code Generation

Tianyi Zhang, Tao Yu, Tatsunori B. Hashimoto, Mike Lewis, Wen-tau Yih, <u>Daniel Fried</u>, and Sida I. Wang

International Conference on Machine Learning (ICML), 2023

### 45. DS-1000: A Natural and Reliable Benchmark for Data Science Code Generation

Yuhang Lai\*, Chengxi Li\*, Yiming Wang\*, Tianyi Zhang\*, Ruiqi Zhong\*, Luke Zettlemoyer, Scott Wen-tau Yih, <u>Daniel Fried</u>, Sida I. Wang, and Tao Yu *International Conference on Machine Learning (ICML)*, 2023

### 46. InCoder: A Generative Model for Code Infilling and Synthesis

<u>Daniel Fried</u>\*, Armen Aghajanyan\*, Jessy Lin, Sida I. Wang, Eric Wallace, Freda Shi, Ruiqi Zhong, Wen-tau Yih, Luke Zettlemoyer, and Mike Lewis *International Conference on Learning Representations (ICLR)*, 2023

### 47. Natural Language to Code Translation with Execution

Freda Shi, <u>Daniel Fried</u>, Marjan Ghazvininejad, Luke Zettlemoyer, and Sida I. Wang *Empirical Methods in Natural Language Processing (EMNLP)*, 2022

#### 48. Neural Theory-of-Mind? On the Limits of Social Intelligence in Large LMs

Maarten Sap, Ronan Le Bras, <u>Daniel Fried</u>, and Yejin Choi Empirical Methods in Natural Language Processing (EMNLP), 2022

#### 49. G3: Geolocation via Guidebook Grounding

Grace Luo\*, Giscard Biamby\*, Trevor Darrell, <u>Daniel Fried</u>, and Anna Rohrbach *Findings of EMNLP*, 2022

#### 50. Inferring Rewards from Language in Context

Jessy Lin, <u>Daniel Fried</u>, Dan Klein, and Anca Dragan Annual Meeting of the Association for Computational Linguistics (ACL), 2022

#### 51. Reference-Centric Models for Grounded Collaborative Dialogue

Daniel Fried, Justin Chiu, and Dan Klein

Empirical Methods in Natural Language Processing (EMNLP), 2021

# 52. Modular Networks for Compositional Instruction Following

Rodolfo Corona, <u>Daniel Fried</u>, Coline Devin, Dan Klein, and Trevor Darrell North American Chapter of the Association for Computational Linguistics (NAACL), 2021

## 53. Learning to Segment Actions from Observation and Narration

<u>Daniel Fried</u>, Jean-Baptiste Alayrac, Phil Blunsom, Chris Dyer, Stephen Clark, Aida Nematzadeh *Annual Meeting of the Association for Computational Linguistics (ACL)*, 2020

#### 54. Cross-Domain Generalization of Neural Constituency Parsers

Daniel Fried\*, Nikita Kitaev\*, and Dan Klein

Annual Meeting of the Association for Computational Linguistics (ACL), 2019

# 55. Are You Looking? Grounding to Multiple Modalities in Vision-and-Language Navigation

Ronghang Hu, <u>Daniel Fried</u>, Anna Rohrbach, Dan Klein, Trevor Darrell, and Kate Saenko *Annual Meeting of the Association for Computational Linguistics (ACL)*, 2019

### 56. Pragmatically Informative Text Generation

Sheng Shen, Daniel Fried, Jacob Andreas, and Dan Klein

North American Chapter of the Association for Computational Linguistics (NAACL), 2019

#### 57. Speaker-Follower Models for Vision-and-Language Navigation

<u>Daniel Fried</u>\*, Ronghang Hu\*, Volkan Cirik\*, Anna Rohrbach, Jacob Andreas, Louis-Philippe Morency, Taylor Berg-Kirkpatrick, Kate Saenko, Dan Klein\*\*, and Trevor Darrell\*\*

Neural Information Processing Systems (NeurIPS), 2018

## 58. Policy Gradient as a Proxy for Dynamic Oracles in Constituency Parsing

Daniel Fried and Dan Klein

Annual Meeting of the Association for Computational Linguistics (ACL), 2018

# 59. Unified Pragmatic Models for Generating and Following Instructions

Daniel Fried, Jacob Andreas, and Dan Klein

North American Chapter of the Association for Computational Linguistics (NAACL), 2018

## 60. Effective Inference for Generative Neural Parsing

Mitchell Stern, Daniel Fried, and Dan Klein

Empirical Methods in Natural Language Processing (EMNLP), 2017

# 61. Improving Neural Parsing by Disentangling Model Combination and Reranking Effects

Daniel Fried\*, Mitchell Stern\*, and Dan Klein

Annual Meeting of the Association for Computational Linguistics (ACL), 2017

# 62. Towards Using Social Media to Identify Individuals at Risk for Preventable Chronic Illness

Dane Bell, <u>Daniel Fried</u>, Luwen Huangfu, Mihai Surdeanu, and Stephen Kobourov Language Resources and Evaluation Conference (LREC), 2016

#### 63. Low-Rank Tensors for Verbs in Compositional Distributional Semantics

Daniel Fried, Tamara Polajnar, and Stephen Clark

Annual Meeting of the Association for Computational Linguistics (ACL), 2015

#### 64. Analyzing the Language of Food on Social Media

<u>Daniel Fried</u>, Mihai Surdeanu, Stephen Kobourov, Melanie Hingle, and Dane Bell *International Conference on Big Data*, 2014

#### 65. Maps of Computer Science

**Daniel Fried** and Stephen Kobourov

Pacific Visualization Symposium (Pacific Vis), 2014

### 66. Predicting Parallelization of Sequential Programs Using Supervised Learning

Daniel Fried, Zhen Li, Ali Jannesari, and Felix Wolf

International Conference on Machine Learning and Applications, 2013

### 67. A Generative Probabilistic Framework for Learning Spatial Language

Colin Dawson, Jeremy Wright, Antons Rebguns, Marco Valenzuela Escarcega, <u>Daniel Fried</u>, and Paul Cohen

International Conference on Development and Learning, 2013. Best Paper Award

#### 68. Bayesian Geometric Modeling of Indoor Scenes

Luca Del Pero, Joshua Bowdish, <u>Daniel Fried</u>, Bonnie Kermgard, Emily Hartley, and Kobus Barnard Conference on Computer Vision and Pattern Recognition (CVPR), 2012

## WORKSHOP PUBLICATIONS

#### 69. SantaCoder: Don't Reach for the Stars

Loubna Ben Allal\*, Raymond Li\*, Denis Kocetkov\*, et al. (41 authors from the BigCode Project) *Deep Learning for Code Workshop*, 2023. **Best Paper Award** 

### 70. Modeling Perspective-Dependent Ambiguity in Grounded Collaborative Dialogue

Justin Chiu, Wenting Zhao, Alexander M. Rush, and Daniel Fried

Wordplay: When Language Meets Games Workshop, 2022

## 71. Interactive Assignments for Teaching Structured Neural NLP

David Gaddy, <u>Daniel Fried</u>, Nikita Kitaev, Mitchell Stern, Rodolfo Corona, John DeNero, and Dan Klein

Teaching NLP Workshop at NAACL, 2021

72. Challenges for Using Social Media for Early Detection of Type II Diabetes Mellitus

Dane Bell, <u>Daniel Fried</u>, Luwen Huangfu, Mihai Surdeanu, and Stephen Kobourov International Workshop on Social Media World Sensors, 2016

73. Learning Low-Rank Tensors for Transitive Verbs

<u>Daniel Fried</u>, Tamara Polajnar, and Stephen Clark *Advances in Distributional Semantics Workshop*, 2015

74. Incorporating both Distributional and Relational Semantics in Word Representations

Daniel Fried and Kevin Duh

International Conference on Learning Representations (ICLR) Workshop, 2015

#### **PREPRINTS**

75. Analyzing Information Sharing and Coordination in Multi-Agent Planning

Tianyue Ou, Saujas Vaduguru, <u>Daniel Fried</u> *arXiv*, 2025

76. MetaLint: Generalizable Idiomatic Code Quality Analysis through Instruction-Following and Easy-to-Hard Generalization

Atharva Naik, Lawanya Baghel, Dhakshin Govindarajan, Darsh Agrawal, <u>Daniel Fried</u>, Carolyn Rose

arXiv, 2025

- 77. From Reproduction to Replication: Evaluating Research Agents with Progressive Code Masking Gyeongwon James Kim, Alex Wilf, Louis-Philippe Morency, <u>Daniel Fried</u> arXiv, 2025
- 78. **SWE-RL:** Advancing LLM Reasoning via Reinforcement Learning on Open Software Evolution Yuxiang Wei, Olivier Duchenne, Jade Copet, Quentin Carbonneaux, Lingming Zhang, <u>Daniel Fried</u>, Gabriel Synnaeve, Rishabh Singh, and Sida I. Wang *arXiv*, 2025
- CodeBenchGen: Creating Scalable Execution-based Code Generation Benchmarks Yiqing Xie, Alex Xie, Divyanshu Sheth, Pengfei Liu, <u>Daniel Fried</u>, and Carolyn Rose arXiv, 2024

\*,\*\*: equal contribution

#### **STUDENTS**

PhD thesis advisor:

- Andre He (with Sean Welleck)
- Jing Yu (JY) Koh (with Ruslan Salakhutdinov)
- Andy Liu (with Mona Diab)
- Saujas Vaduguru
- Zhiruo (Zora) Wang (with Graham Neubig)

#### MLT thesis advisor:

• Alex Xie (with Matt Gormley and Vincent Hellendoorn)

#### PhD committee member:

- Shuyan Zhou
- Aman Madaan
- Ta-Chung Chi
- Nikitha Rao
- Frank Xu
- Ritam Dutt
- Ruohong Zhang
- So Yeon (Tiffany) Min
- Anthony Sicilia (Northeastern)

- Kush Jain
- Brendon Boldt
- Sanjay Subramanian (UC Berkeley)
- Liangke Gui

TEACHING Instructor: 11-891, Neural Code Generation, CMU, 2024 – present

*Instructor:* 11-777, Multimodal Machine Learning, CMU, 2023 – present

Instructor: 11-877, Advanced Multimodal Machine Learning, CMU, Spring 2024

Instructor: 11-711, Advanced NLP, CMU, Fall 2023

*Instructor:* CS188, Artificial Intelligence, UC Berkeley, Summer 2018

Teaching Assistant: CS188, Artificial Intelligence, UC Berkeley, Fall 2017

Teaching Assistant: CS245, Intro to Discrete Structures, University of Arizona, Spring 2012

Teaching Assistant: ISTA100, Great Ideas of the Information Age, University of Arizona, Fall

2011

Project Design: CS288, Natural Language Processing, UC Berkeley, Spring 2020

INVITED TALKS

Code Generation With and For Agents. IVADO Bootcamp Focusing the State of Agents 2025.

*Improving NLP Systems with Speaker Listener Games.* **Keynote Address**, Society for Computation in Linguistics (SCiL) 2025.

*Inducing Functions to Improve LLM Agents*. Deep Learning For Code Workshop, ICLR 2025; REALM Workshop, ACL 2025.

Planning and Inferring with LLMs for Grounded, Interactive Tasks. Forum for Artificial Intelligence, UT Austin. Fall 2024

Benchmarks and Tree Search for Multimodal LLM Agents. SpLU-RoboNLP Workshop, ACL 2024. Summer 2024

Interacting with LLMs for Grounded Tasks. NILLI Workshop, EMNLP 2023. Spring 2023

Interacting with (code) LLMs. MIT Neurosymbolic Reading Group. Spring 2023

InCoder, SantaCoder, and StarCoder: Findings from Training Open-Source Code LLMs. Bloomberg AI; GitHub Next. Spring 2023

*Using Language Strategically in Context*. CoRL Workshop on Strategic Multi-Agent Interactions, 2022; Johns Hopkins University, University of Pennsylvania, UT Austin. Spring 2023

Contextual Communication in Programming. LTI Future of Code Generation Seminar, 2022

Reasoning About Actions and Rewards in Language Interactions. MIT CPL, 2022. (with Jessy Lin)

Modularity in Grounded Interaction. ViGIL Workshop, NAACL 2021. (with Rudy Corona)

Learning Grounded Pragmatic Communication. University of Arizona, TTI-Chicago, University of Southern California, Purdue, Carnegie Mellon University, UC Irvine, Université de Montréal/Mila, Allen Institute for Artificial Intelligence, Facebook AI Research, Google Research, Stanford Cognition and Language Workshop. Spring 2021

Pragmatic Models for Generating and Following Grounded Instructions. Stanford NLP Seminar, University of Arizona, USC ISI. Fall 2018–Spring 2019

ACADEMIC SERVICE Workshop co-organizer: Workshop on Large Language Models for Agents, ICLR 2024

Workshop co-organizer: 3rd UnImplicit Workshop, EACL 2024 Workshop co-organizer: 2nd UnImplicit Workshop, NAACL 2022

Workshop co-organizer: 2nd Advances in Language and Vision Workshop, NAACL 2021

Workshop advisory board: Theory of Mind in Communicating Agents, ICML 2023

Outstanding reviewer awards: ACL 2018, NeurIPS 2019, ACL 2020, ACL 2021, ACL 2022

Senior area chair: ACL 2024

Area chair: EMNLP 2022–2024, ACL 2023, ACL Rolling Review 2024–present

Ethics chair: NAACL 2024

Action Editor: TACL 2025–present

**Reviewing**: TACL 2022–2025; ACL Rolling Review 2021–2024; ACL 2018–2022; EMNLP 2016–2021; NAACL 2019, 2021; AACL-IJCNLP 2020; EACL 2017, 2021; NeurIPS 2019–2023; ICML 2019, 2023; ICLR 2021–2023; AKBC 2021; COLING 2018; \*SEM 2016–2018; NAACL-SRW 2016, 2018; ACL-SRW 2020; IJCAI 2016; SpLU-RoboNLP 2019, 2021; NeuralGen 2019; ViGIL 2019, 2021; DeepLo

2019; ALVR 2020, 2021; LaReL 2020; Cooperative AI 2021; Meaning in Context 2021