

Yuchen Zhuang

(+1) 404-751-7641 | yczhuang@gatech.edu | <https://night-chen.github.io/> | 756 W Peachtree St NW, Atlanta, GA 30308

EDUCATION

Computer Science and Engineering, Georgia Institute of Technology Atlanta, Georgia
Machine Learning Ph.D., Computational Science and Engineering Aug 2019-May 2025 (flexible)
Ph.D. Advisor: [Dr. Chao Zhang](#) GPA: 3.80/4.00

Research Interest: LLM Agentic Reasoning and Planning, LLM Personalization, Data-centric AI

Core Courses: Mathematical Foundations of Machine Learning, Graphical Models in Machine Learning, Statistical Machine Learning, Convex Optimization, Natural Language Processing

Thesis Topic: Advancing Agentic Reasoning and Planning in Large Language Models through Reward Shaping

School of Information Science and Engineering, Southeast University (SEU) Nanjing, China
B.Eng. in Information Engineering Sept 2015-July 2019
Bachelor Advisor: Dr. Chuan Zhang GPA: 88.16/100
Research Assistant in Lab of Efficient Architectures for Digital-communication and Signal-processing

INDUSTRY EXPERIENCE

Rufus Group, Amazon, Palo Alto, California May 2024-Aug 2024
Applied Scientist Intern, Host: Jingfeng Yang, Haoming Jiang, Qing Ping, Bing Yin
Topic: Improving Fundamental Capabilities of LLM-Driven General Agents through Pre-training

Data-Driven Media Systems Group, Adobe, San Jose, California May 2023-Aug 2023
Research Scientist Intern, Manager: Saayan Mitra
Mentor: Xiang Chen, Tong Yu, Victor Soares Bursztyn, Ryan Rossi, Somdeb Sarkhel
Publication: ToolChain*: Efficient Action Space Navigation in Large Language Models with A* Search ([ICLR'24](#))

Personalization Group, Amazon, Seattle, Washington May 2022-Aug 2022
Applied Scientist Intern, Manager: Tong Zhao, Xin Shen, Mentor: Yan Zhao, Chaosheng Dong, Ming Wang
Publication: G-STO: Sequential Main Shopping Intention Detection via Graph-Regularized Stochastic Transformer ([CIKM'23](#))

PREPRINTS & MANUSCRIPTS

(* denotes equal contributions)

- Yuchen Zhuang**, Jingfeng Yang, Haoming Jiang, Xin Liu, Kewei Cheng, Sanket Lokegaonkar, Yifan Gao, Qing Ping, Tianyi Liu, Binxuan Huang, Zheng Li, Zhengyang Wang, Pei Chen, Ruijie Wang, Rongzhi Zhang, Nasser Zalmout, Priyanka Nigam, Bing Yin, Chao Zhang. [Amazon Agent LLM Pre-Training](#).
- Changhao Li*, **Yuchen Zhuang***, Rushi Qiang, Haotian Sun, Hanjun Dai, Chao Zhang, Bo Dai. [Martyryoshka: Learning to Drive Black-Box LLMs Reasoning with LLMs](#).

SELECTED PUBLICATIONS

(The full publication list can be found [this link](#). * denotes equal contributions)

- Yuchen Zhuang**, Haotian Sun, Yue Yu, Qifan Wang, Chao Zhang, Bo Dai. [HYDRA: Model Factorization Framework for Black-Box LLM Personalization](#). In *Thirty-eighth Conference on Neural Information Processing Systems (NeurIPS 2024)*.
- Wenqi Shi, Ran Xu, **Yuchen Zhuang**, Yue Yu, Jieyu Zhang, Hang Wu, Yuanda Zhu, Joyce Ho, Carl Yang, May D. Wang. [EHRAgent: Code Empowers Large Language Models for Complex Tabular Reasoning on Electronic Health Records](#). In proceedings of *The 2024 Conference on Empirical Methods in Natural Language Processing (EMNLP 2024)*.
- Haotian Sun*, **Yuchen Zhuang***, Wei Wei, Chao Zhang, Bo Dai. [BBox-Adapter: Lightweight Adapting for Black-Box Large Language Models](#). In *The Forty-first International Conference on Machine Learning (ICML 2024)*, (**Spotlight**).
- Yuchen Zhuang**, Xiang Chen, Tong Yu, Saayan Mitra, Victor Bursztyn, Ryan A. Rossi, Somdeb Sarkhel, Chao Zhang. [ToolChain*: Efficient Action Space Navigation in Large Language Models with A* Search](#). In *The Twelfth International Conference on Learning Representations (ICLR 2024)*.

5. Yue Yu*, **Yuchen Zhuang***, Jieyu Zhang*, Yu Meng, Alexander Ratner, Ranjay Krishna, Jiaming Shen, Chao Zhang. **Large Language Model as Attributed Training Data Generator: A Tale of Diversity and Bias**. In *Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS 2023)*.
6. **Yuchen Zhuang***, Yue Yu*, Kuan Wang*, Haotian Sun, Chao Zhang. **ToolQA: A Dataset for LLM Question Answering with External Tools**. In *Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS 2023)*.
7. Haotian Sun*, **Yuchen Zhuang***, Lingkai Kong, Bo Dai, Chao Zhang. **AdaPlanner: Adaptive Planning from Feedback with Language Models**. In *Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS 2023)*.
8. Wenqi Shi, **Yuchen Zhuang**, Yuanda Zhu, Henry J.Iwinski, J. Michael Wattenbarger, May D. Wang. Retrieval-Augmented Large Language Models for Adolescent Idiopathic Scoliosis Patients in Shared Decision-Making. In *ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (BCB 2023)*, **(Best Paper Award)**.
9. **Yuchen Zhuang**, Xin Shen, Yan Zhao, Chaosheng Dong, Ming Wang, Jin Li, Chao Zhang. **G-STO: Sequential Main Shopping Intention Detection via Graph-Regularized Stochastic Transformer**. In proceedings of *ACM International Conference on Information and Knowledge Management (CIKM 2023)*.
10. **Yuchen Zhuang**, Yue Yu, Lingkai Kong, Xiang Chen, Chao Zhang. **DyGen: Learning from Noisy Labels via Dynamics-Enhanced Generative Modeling**. In proceedings of *29TH ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2023)*.
11. Yue Yu, **Yuchen Zhuang**, Rongzhi Zhang, Yu Meng, Jiaming Shen, Chao Zhang. **ReGen: Zero-Shot Text Classification via Training Data Generation with Progressive Dense Retrieval**. In proceedings of *Findings of The 61st Annual Meeting of the Association for Computational Linguistics (ACL-Findings 2023)*.
12. **Yuchen Zhuang**, Yinghao Li, Junyang Zhang, Yue Yu, Yingjun Mou, Xiang Chen, Le Song, Chao Zhang. **ReSel: N-ary Relation Extraction from Scientific Text and Tables by Learning to Retrieve and Select**. In proceedings of *The 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP 2022)*, **(Oral)**.
13. Lingkai Kong, Jiaming Cui, **Yuchen Zhuang**, Rui Feng, B Aditya Prakash, Chao Zhang. **End-To-End Stochastic Programming with Energy-based Model**. In proceedings of *Advances in Neural Information Processing Systems (NeurIPS 2022)*, **(Oral)**.
14. Lingkai Kong, Haoming Jiang, **Yuchen Zhuang**, Jie Lyu, Tuo Zhao, Chao Zhang. **Calibrated Language Model Fine-tuning for In- and Out-of-Distribution Data**. In proceedings of *The 2020 Conference on Empirical Methods in Natural Language Processing (EMNLP 2020)*.

HONORS AND AWARDS (SELECTED)

- | | |
|--|-------------------|
| • JP Morgan PhD Fellowship 2024 | July. 2024 |
| • NeurIPS 2023 Scholar Award | Oct. 2023 |
| • KDD Student Travel Award, ACM SIGKDD | May. 2023 |
| • Best Paper Award , ACM Conference on Bioinformatics, Computational Biology, and Health Informatics. | Sep. 2023 |
| • Second Prize of Excellent Undergraduate Student Graduation Thesis in Jiangsu Province (Top 1%) | Jun, 2020 |
| • Most Influential Graduate Award Nomination, Southeast University (20/4000) | Jun, 2019 |
| • Advanced Individual in Scientific Research, Southeast University (Top 1%) | Jun. 2019 |
| • Qingyun Sun Innovation Scholarship, Southeast University (Top 1%) | May2018, May 2019 |
| • International Collaboration Symposium on Information, Production & Systems Excellent Paper Award | Dec, 2017 |
| • First Prize, National High School Mathematical League | Feb 2014 |
| • First Prize, National Olympiad in Informatics in Provinces | Feb 2014 |

SERVICES

- | | |
|---|------------------|
| Teaching Assistant, CS 7641 Machine Learning | Fall 2020 |
| Teaching Assistant, CSE 8803 Deep Learning for Text Data | Fall 2021 |
| Teaching Assistant, GT Big Data Bootcamp | Spring 2021-2024 |
| Teaching Assistant, GT Natural Language Processing Bootcamp | Spring 2023-2024 |
| Conference Area Chair, EMNLP2024, ARR (2024-) | |
| Conference Paper Reviewer, ARR (2023-), EMNLP (2022-), ICLR (2024), NeurIPS (2023-), KDD (2021-), ACL (2023), AAI (2023-), ICML (2021, 2024), AISTATS (2024), SDM (2024). | |

PROFESSIONAL SKILLS

- Programming Language: Python, MATLAB, LaTeX, C++
- Deep Learning Frameworks: PyTorch, Keras
- LLM Skills: Model Pre-Training, Instruction Fine-Tuning, RLHF, Inference, Evaluation.