

Donghong Cai

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I am a third-year Ph.D. student in Computer Science at Washington University in St. Louis, advised by Dr. Yixin Chen. My research focuses on diffusion language models, structured data generation, and LLM reasoning, with a background in self-supervised learning. I am interested in LLM, Agentic AI, reinforcement learning, and self-improving AI systems, and am seeking **Spring or Summer 2027 Research Scientist Intern and Applied Scientist Intern** opportunities.

EDUCATION

Washington University in St. Louis <i>Ph.D. in Computer Science; GPA: 3.96/4.00</i>	St. Louis, USA <i>Aug 2024 – present</i>
Zhejiang University <i>M.S. in Software Engineering; GPA: 3.84/4.00</i>	Hangzhou, China <i>Sep 2020 – Mar 2023</i>
Huazhong University of Science and Technology <i>B.S. in Software Engineering; GPA: 3.67/4.00</i>	Wuhan, China <i>Sep 2016 – Jun 2020</i>

WORK EXPERIENCE

Alibaba Group <i>Machine Learning Engineer, International E-commerce Seller Team</i>	Shenzhen, China <i>Apr 2023 – Jul 2024</i>
- Developed an LLM-based seller assistant combining semantic QA retrieval with retrieval-augmented generation (RAG) over databases and documents. Built recommendation and time-series forecasting models, increasing merchant GMV by 8.28% and units ordered by 6.55% on average, and improving GMV/order forecasting accuracy by 21.7%/36.8% over manual heuristics. - Received highest annual performance rating of 3.75 in Alibaba (top 10%).	

PUBLICATIONS & PREPRINTS

* Equal contribution.

- MBrain: A Multi-channel Self-Supervised Learning Framework for Brain Signals**
Donghong Cai*, Junru Chen*, Yang Yang, Teng Liu, Yafeng Li.
KDD 2023
- TabDLM: Free-Form Tabular Data Generation via Joint Numerical–Language Diffusion**
Donghong Cai, Jiarui Feng, Yanbo Wang, Da Zheng, Yixin Chen, Muhan Zhang.
NeurIPS 2026
- Dependency-Structured Generation with Masked Diffusion Language Models**
Hanqing Zeng*, Diyi Hu*, Donghong Cai*, Jiarui Feng*, Yizhe Zhang, Yinglong Xia, Yangtian Zhang, Spilios Evmorfos, Jiayi Liu, Lizhu Zhang, Hongwei Wang, Hongyu Xiong, Yang Song, Xiangjun Fan, Yixin Chen, Fei Sha.
Preprint, 2026
- GRIP: In-Parameter Graph Reasoning through Fine-Tuning Large Language Models**
Jiarui Feng, Donghong Cai, Yixin Chen, Muhan Zhang.
KDD 2026
- Nonsense Helps: Prompt Space Perturbation Broadens Reasoning Exploration**
Langlin Huang, Chengsong Huang, Jinyuan Li, Donghong Cai, Yuyi Yang, Jiaxin Huang.
EMNLP 2026
- Questioning the Questions: Sustaining Self-Evolution in Reasoning Models**
Jinyuan Li, Chengsong Huang, Langlin Huang, Donghong Cai, Shiping Gao, Yuyi Yang, Jiaxin Huang.
Preprint, 2026

7. Process Rewards with Learned Reliability

Jinyuan Li, Langlin Huang, Chongsong Huang, Shaoyang Xu, **Donghong Cai**, Yuyi Yang, Wenxuan Zhang, Jiaxin Huang.

Preprint, 2026

TEACHING EXPERIENCE

Washington University in St. Louis

Teaching Assistant

St. Louis, USA

Fall 2026

- CSE 5403 – Algorithms for Nonlinear Optimization