Junzhi Chen

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Education

- **New York University** *Sep 2024 - May 2026*
  Master of Science in Computer Engineering New York, United States
  - GPA: 3.78/4.00
  - Core courses: Machine Learning, Machine Learning Systems Engineering and Operations, Natural Language Understanding, High-Performance Machine Learning
- **The Chinese University of Hong Kong, Shenzhen** *Sep 2020 - May 2024*
  Bachelor of Engineering in Computer Science and Engineering Shenzhen, China
  - Major GPA (first 3 years): 3.73/4.00
  - Core courses: Machine learning, Computer Vision, Parallel Programming, Large Language Models

Publications

[1] *Smurfs: Multi-Agent System using Context-Efficient DFSDT for Tool Planning*
Junzhi Chen, Juhao Liang, Benyou Wang
NAACL 2025

Preprint

[1] *Interactive AppWorld: Evaluate LLM Agents' Ability to Use Interactive User Response in Realistic Task Environments*
Junzhi Chen et al.
Expected Dec 2025

Research Experience

- **Machine Learning for Language (ML²) Lab, NYU** *Nov 2024 - Present*
  Research Assistant New York, United States
  - Led the development of Interactive AppWorld, a benchmark for evaluating LLM agents' ability to collaborate with simulated users in unsolvable, underspecified, and confirmation-required task settings.
- **Shenzhen Research Institute of Big Data, CUHKSZ** *Jun 2023 - Aug 2024*
  Research Assistant Shenzhen, China
  - Identified limitations in the DFSDT (Depth-First Search Decision Tree) agent-planning algorithm.
  - Proposed "Smurfs", a novel multi-agent system that enhances DFSDT with a modular, context-efficient, and training-free design. Project Page
  - Reduced token usage by 60.9% compared to DFSDT and enabled Mistral-7b to perform on par with GPT-4-DFSDT on StableToolBench.

Work Experience

- **ModelBest, Shenzhen Intermediate People's Court** *Mar 2024 - Jul 2024*
  Machine Learning Engineer Intern Shenzhen, China
  - Built large-scale pretraining dataset for legal-domain LLMs, performing filtering, deduplication, and quality selection over 15TB of court documents.
  - Developed an instruction-tuning pipeline by synthesizing high-quality supervised data from the judicial database and iteratively refining models based on feedback from judges.
  - Contributed to the deployment of the first Chinese LLM for Judicial Trials.

Project

- **New York University** *Jan 2025 - May 2025*
  DS-GA 1012: Natural Language Understanding New York, United States
  - Developed a memory-augmented LLM to use explicit memory (sparse attention key-value pairs) for math, code and general reasoning tasks.
  - Implemented the codebase for knowledge base construction, memory writing/reading/sparsification, model inference, training, and evaluation.
  - Detailed design can be seen at project page and project report.