

WENXUAN DONG

✉ wxndong@gmail.com | 🌐 wxndong | 📖 Blog

🎓 Education

🌿 Northeast Forestry University (**Project 211**) | *Computer Science* 2021.09—Present

- Language Proficiency: CET-4 502
- Academic Honors: University Scholarship (2022, 2023), Outstanding Cultural and Sports Individual

🔗 Projects

Multi-strategy NER System for Classical Chinese | **Graduation Project** 2024.12—2025.03

Proposed a multi-strategy NER framework to address entity boundary ambiguity and annotation complexity in heterogeneous datasets, enhancing robustness on low-resource language datasets.

- **Data Processing:** Preprocessed and integrated 500K character heterogeneous classical Chinese dataset, constructing high-quality training and evaluation corpus.
- **Model Innovation:** Designed task-adaptive NER architecture based on Pretrained Language Model, combining CRF for complex sequence dependencies and Softmax for simplified label prediction, achieving 4.34% F1 improvement (80.61%→84.91%).
- **Performance Enhancement:** Designed prompt templates for LLM API-assisted annotation strategy, improving recognition accuracy by 50% for sparse entities (e.g., book titles, medicine names).
- **Academic Achievements:** Related technical report paper accepted by the ALP Conference (NAACL 2025 Workshop) | First Author.

RAG QA Bot for Academic Papers | **Personal Open-Source Project** 2024.12—2025.03

Designed a lightweight hybrid Retrieval-Augmented Generation (RAG) system addressing information overload in academic research, balancing semantic understanding depth and retrieval efficiency.

- **Data Processing:** Cleaned and filtered 100K papers from Arxiv CS dataset across 6 subfields (CV, AI etc.), generating efficient index files using ColBERTv2.
- **Architecture Design:** Construct a lightweight RAG system based on the Ragatouille framework, with a pipeline comprising a complexity scorer, retriever, text fusion module (integrating queries with Top-k documents), and generator, optimized to balance performance and computational complexity.
- **Algorithm Innovation:** Designed query-complexity-based dynamic routing mechanism combining DeepSeek-v3 scorer and ColBERTv2 retrieval model, reducing computational overhead while maintaining high accuracy.
- **System Integration:** Combine local semantic indexing with real-time ArXiv search in a dual-mode system, featuring an interactive interface built with Gradio and deployed on Hugging Face Space.

⚙️ Technical Skills

- Proficient in **deep learning** and **NLP** fundamentals, familiar with Transformer, BERT and other classical models, with practical experience in NER tasks.
- Experienced in **PyTorch** framework, with hands-on experience in BERT fine-tuning & optimization.
- Familiar with **RAG** fundamentals, capable of combining semantic retrieval with generative models to optimize response efficiency and accuracy in complex query scenarios.
- Solid foundation in **LLMs** and prompt engineering, able to design efficient prompt strategies and integrate external LLM APIs for semantic understanding and knowledge reasoning.
- Proficient in **Python, C++ STL, Linux** commands and **Git** version control.
- Strong knowledge of **data structures and algorithms** (DP, graph algorithms, search & sort), with algorithm design and optimization skills.

🏆 Honors & Awards

- Blue Bridge Cup C/C++ Provincial Contest - **Second Prize** 2023.04
- CCPC Heilongjiang - **Bronze Medal** 2023.05
- Group Programming Ladder Tournament - **Team Third Prize** 2023.05
- Baidu Star Provincial Contest - **Silver Medal** 2023.06
- CCPC Northeast Four Provinces - **Excellence** 2023.05