DONG SHU

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EDUCATION

Northwestern University, Evanston, Illinois
Master of Science in *Computer Science*   Anticipated 06/25
Cumulative GPA: **4.00/4.00**
Relevant Courses: Deep Learning for NLP, AI for Science, Reinforcement Learning, Deep Learning, Intro to AI, Agile Software Development, Connected and Autonomous Vehicle, Natural Language Processing, Machine Learning

Rutgers University, New Brunswick, New Jersey
Bachelor of Science in *Computer Science*   Graduated 06/23
Cumulative GPA: **3.652/4.00**   Honor: *Cum Laude*
Relevant Courses: Machine Learning Principles, Artificial Intelligence, Design and Analysis of Computer Algorithms, Internet Technology, Software Methodology, Computer Architecture, Data Science, Data Structures

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RELEVANT EXPERIENCE

Vertisim AI, Berkeley, California
Machine Learning Intern   05/24 – 08/24
- **Led the development of BidSmart**, a pipeline using **LLaMA 3.1 70B** and **retrieval-augmented generation (RAG)** to integrate company history data with government bidding invitations, generating tailored proposals.
- Implemented **context-aware chunking** to split documents meaningfully, enhancing data retrieval without cutting important sections.
- Used **RAG** to retrieve relevant company data and successful past proposals from a private vector database, improving model performance through in-context learning.

Bridge Legal, Chicago, Illinois
AI Tech Intern   11/23 – 04/24
- Law Language Model: **Developed and instruction fine-tuned Gemma** for multi-task legal applications, including Legal Judgment Prediction, Precedent Case Recommendation, and Similar Case Retrieval, utilizing **RAG** and **knowledge graph-based recommendation**.
    - Achieved **81.6% top-5 accuracy** in similar case retrieval, **83.2% top-5 accuracy** in precedent case recommendation, and **79.4% accuracy** in legal judgment prediction, outperforming GPT-4 in all tasks.
- Advance Data Analysis Assistant: **Integrated GPT Assistant API** with the company's software to automate tabular data analysis, significantly improving data processing speed and reducing manual efforts.
- AI Phone Call Assistant: Developed a real-time **AI-driven phone call system** by integrating **Twilio's voice assistant with GPT assistant**, improving client call handling efficiency and reducing response time.
- PDF Analysis Assistant: Implemented **OCR** to convert scanned PDFs into text, facilitating detailed analysis and improving document processing for legal use.

MaxSense Technology, Shanghai, China
AI Deep Learning Algorithm Intern   06/23 – 08/23
- **Trained a YOLOv8 model** for scene object recognition and classification in mining areas, using a combination of open-source, web-scraped, and company proprietary datasets.
- Conducted extensive **manual labeling** to prepare training data, improving detection precision and model accuracy.
- Achieved **94.33% accuracy** and an inference speed of **59ms/step**, detecting vehicles, pedestrians, and traffic signs in real-time to enhance operational safety in mining environments.

WLKATA, Hackensack, New Jersey
Robotic Arm Programmer   05/22 – 05/23
- Tangram: Developed a Tangram-solving program directs a robotic arm to solve puzzle.
- Angle Adjustment: Developed angle-adjustment program to optimize block orientation on conveyors.
- Color & Shape Classification: Developed a classification system to sort blocks by color and shape.
- Blocks Targeting: Developed targeting program to enable a robotic arm to pick up specific blocks.

SCHOOL PROJECTS:

- GAN-Art Generator; Human-Computer Interactable Cooking Recipes; CNN for Anime Facial Classification; Tweet Mining & The Golden Globes; Deep Q Learning Agent on CartPole Task; Face and Digit Classification Using Various Algorithms; Note-Doctor; AI Chess Game; A* Maze Solver…

RESEARCH PUBLICATION:

Google Scholar: https://scholar.google.com/citations?user=KfIlTroAAAAJ&hl=en

AAAI Student Abstract 2025:

- **Dong Shu**, and Mengnan Du. "Comparative Analysis of Demonstration Selection Algorithms for LLM In-Context Learning." *arXiv preprint arXiv:2410.23099* (2024).

IEEE BigData Workshop 2024:

- **Dong Shu**, Mingyu Jin, Tianle Chen, Chong Zhang, and Yongfeng Zhang. "CEIPA: Counterfactual Explainable Incremental Prompt Attack Analysis on Large Language Models." *arXiv preprint arXiv:2407.09292* (2024).

ACL 2024:

- Jin, Mingyu, Qinkai Yu, **Dong Shu**, Haiyan Zhao, Wenyue Hua, Yanda Meng, Yongfeng Zhang, and Mengnan Du. "The impact of reasoning step length on large language models." arXiv preprint arXiv:2401.04925 (2024).

ICLR Workshop 2024:

- Yu, Jiahao, Yuhang Wu, **Dong Shu**, Mingyu Jin, and Xinyu Xing. "Assessing prompt injection risks in 200+ custom gpts." arXiv preprint arXiv:2311.11538 (2023).

CIKM 2024:

- **Dong Shu**, Haoran Zhao, Xukun Liu, David Demeter, Mengnan Du, and Yongfeng Zhang. "LawLLM: Law Large Language Model for the US Legal System." arXiv preprint arXiv:2407.21065 (2024).

ECAI 2024:

- Zhang, Chong, Mingyu Jin, **Dong Shu**, Taowen Wang, Dongfang Liu, and Xiaobo Jin. "Target-driven Attack for Large Language Models." In ECAI, CCF B. 2024.

ACML 2024:

- **Dong Shu**, Tianle Chen, Mingyu Jin, Yiting Zhang, Mengnan Du, and Yongfeng Zhang. "Knowledge Graph Large Language Model (KG-LLM) for Link Prediction." arXiv preprint arXiv:2403.07311 (2024).

ICANN 2024:

- Liu, Chengzhi, Zihong Luo, Yifei Bi, Zile Huang, **Dong Shu**, Jiheng Hou, Hongchen Wang, and Kaiyu Liang. "ARIF: An Adaptive Attention-Based Cross-Modal Representation Integration Framework." In International Conference on Artificial Neural Networks, pp. 3-18. Cham: Springer Nature Switzerland, 2024.

arXiv Preprint:

- **Dong Shu**, Jin, Mingyu, Suiyuan Zhu, Beichen Wang, Zihao Zhou, Chong Zhang, and Yongfeng Zhang. "Attackeval: How to evaluate the effectiveness of jailbreak attacking on large language models." arXiv preprint arXiv:2401.09002 (2024).
- Jin, Mingyu, Qinkai Yu, **Dong Shu**, Chong Zhang, Lizhou Fan, Wenyue Hua, Suiyuan Zhu et al. "Health-llm: Personalized retrieval-augmented disease prediction system." arXiv preprint arXiv:2402.00746 (2024).
- **Dong Shu**, and Zhouyao Zhu. "Generative Models and Connected and Automated Vehicles: A Survey in Exploring the Intersection of Transportation and AI." arXiv preprint arXiv:2403.10559 (2024).
- Zhang, Chong, Xinyi Liu, Mingyu Jin, Zhongmou Zhang, Lingyao Li, Zhengting Wang, Wenyue Hua, **Dong Shu** et al. "When AI Meets Finance (StockAgent): Large Language Model-based Stock Trading in Simulated Real-world Environments." arXiv preprint arXiv:2407.18957 (2024).

LEADERSHIP

CourtAI, Chicago, Illinois

CEO, Co-founder   05/24 – Now
- CourtAI is an innovative company that combines AI with law, dedicated to improving the efficiency and quality of work for legal professionals.
- The project ranked in the top 10% at Y Combinator.

Advance Women in Computer Science (AWiCS) Organization, Rutgers University, New Jersey

Peer Tutor   09/22 – 05/23
- Provided academic support to students taking Intro to Computer Science and Data Structures courses, assisting students with homework and class assignments.

Rutgers Chinese Students and Scholars Association (RCSSA)

Head of General Affairs Department   01/22 – 05/22
- Led and organized Chinese New Year Gala, Freshmen Airport Pickup Service, and Social Multicultural Fair as a core member.

HONORS AND REWARDS:

- **Top 13.6% Paper Selection (AAAI Student Abstract 2025)** – "Comparative Analysis of Demonstration Selection Algorithms for In-Context Learning in Large Language Model" was ranked in the top 13.6% of submissions.
- **Best Survey Award (FCS 2024)** – Awarded the paper "Large Vision-Language Model Security: A Survey"
- **Cum Laude Honor (2023)** – Awarded to my Bachelor's degree