

Education

University of Illinois, Urbana-Champaign Master of Computer Science	2022 - 2023 GPA: 3.8/4.0
University of Massachusetts, Amherst B.S. in Computer Science and Mathematics (Dual Degrees) Commonwealth Honors College Scholar	2018 - 2022 GPA: 3.8/4.0

Publications and Preprints

- [7] **Genglin Liu**, Xingyao Wang, Yangyi Chen, Lifan Yuan, Hao Peng. Prudent Silence or Foolish Babble? Examining LLMs' Handling of the Unknown
Preprint 2023
- [6] Zhenhailong Wang, Ansel Blume, Sha Li, **Genglin Liu**, Jaemin Cho, Zineng Tang, Mohit Bansal, Heng Ji
Paxion: Patching Action Knowledge in Video-Language Foundation Models
NeurIPS 2023 (spotlight) [[arxiv](#)]
- [5] **Genglin Liu**, Yi R. Fung, Heng Ji. SemEval-2023 Task 3: An Augmented Multilingual NLI Approach Towards Online News Persuasion Techniques Detection
Proceedings of the The 17th International Workshop on Semantic Evaluation (SemEval 2023) [[paper](#)]
- [4] Reece Suchocki, Mary Lynn Martin, **Genglin Liu**, Martha Palmer, Susan Brown. Schematic Event Representation: An Empirical Approach to Hierarchical Schema Curation
COLING 2024 (in submission)
- [3] Sidong Zhang, Evan Fellman, James Ko, **Genglin Liu**, Madalina Fiterau. Forecasting Alzheimer's Disease Two Years Ahead from Longitudinal Multimodal Data
Journal of Neuroscience, 2023 (in submission)
- [2] **Genglin Liu**, Madalina Fiterau. Hybrid Convolution and Deep Learning with Structured Covariates
Undergraduate Thesis, 2022 [[thesis](#)]
- [1] **Genglin Liu**, Yulong Lu. Demystifying The Spectral Bias of Overparameterized Deep Neural Networks
UConn REU Conference, 2021 [[technical report](#)]

Research Experiences

Student Researcher | UIUC | Fall 2023 - present

- Building trustworthy and responsible AI models by benchmarking and mitigating hallucination and other undesirable behaviors in Large Language Models. Advised by [Prof. Hao Peng](#).
- Aligning large language model's behaviors with human preferences; evaluating calibration in LLMs.

Graduate Research Assistant | BLENDER, Urbana IL | Fall 2022 - Fall 2023

- Multimodal learning: video understanding enhanced by physical knowledge. Designed new contrastive loss and applied Adaptor based parameter-efficient finetuning on frozen multimodal pretrained models.
- Multi-lingual NLP: detecting framing and persuasion techniques on multilingual news articles.
- Work published at NeurIPS 2023 and SemEval 2023 workshop. Advised by [Prof. Heng Ji](#)

Research Intern | BLENDER, Urbana IL | Summer 2022

- Worked on a Natural Language Processing project focusing on multimedia misinformation detection.
- Explored video understanding techniques such as frame captioning using CLIP and OCR on subtitles. Wrote an end-to-end, video-to-text ASR pipeline using Baidu's PaddleSpeech and Facebook's Wav2Vec2 models.

Undergrad Research Assistant | InfoFusion Lab, Amherst MA | Fall 2020 - Spring 2022

- Implemented a novel convolutional neural network which takes both visual and tabular data as multimodal input. Work completed an Undergraduate Honors Thesis, advised by [Prof. Madalina Fiterau](#).
- Improving an Alzheimer's Forecasting framework, FLARe, specifically on processing brain MRI images and patient cognitive testing scores using the hybrid convolution method mentioned above.

Summer Intern | TRIPODS Institute, Amherst MA | Summer 2021

- Studied Neural Tangent Kernels (NTK) and their spectral properties, advised by [Prof. Yulong Lu](#).
- Conducted extensive numerical experiments on NTK with different activation functions. Work presented as a technical report with an oral presentation at the REU conference held by University of Connecticut, 2021.

Softwares and Personal Projects

Semantic Evaluation on News Articles (SemEval 2023 Competition)

- Our RoBERTa multilingual NLI model with a unique augmentation scheme achieves **top 1 macro-f1 score** in English, and top 5 on the English and Russian leaderboard for the persuasion technique detection subtask.

Event Schema Curation Visualization Interface (Research Software)

- Developed a full-stack web application using ReactJS, Cytoscape.js, and Flask backend. The interface allows users to visualize and curate complex event schemas as interactive graphs.

SuDocu (Research Software for VLDB 2020 Demo Paper)

- Helped design the UI and developed the core frontend features for a personalized text summarization web demo. This demo paper won the Best Demo Runner-up Award at VLDB 2020.

Technical Skills

- Programming Languages: Python, SQL, R, C++, JavaScript, Java
- Natural Language Processing: Transformers, Hugging Face, SpaCy, OpenAI GPT api, Llama-2, PEFT, RLHF
- Data Science / ML / Deep Learning: Numpy, Pandas, Scikit-learn, Pytorch, Vertex AI, Slurm, DeepSpeed
- Software Engineering: Linux, Git, AWS, GCP, Docker, NoSQL, vector database (Pinecone), vLLM

Awards and Honors

- Bay State Fellowship Recipient at UMass Amherst, 2022
- College of Information and Computer Sciences Departmental Honors, 2022
- Chancellor's Award at UMass Amherst, 2018

References

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