Atharva Tendle

New York City | 402-875-3405 | atendle13.3.98@gmail.com | atharva-tendle.github.io | linkedin.com/in/atharva-tendle | github.com/atharva-tendle

SUMMARY

Senior Research Engineer with $\sim$ 5 years of experience bridging research and production in AI systems. Deep expertise in Agentic systems, GenAI evaluations, and production-grade Multimodal Search and RAG. Hands-on experience with small scale SFT, PeFT, RL-based training methods. Strong research background with publications at top conferences and journals, and active contributions to open-source AI frameworks. Passionate about scaling Generative AI models and systems by making them more useful, safe, and collaborative.

EXPERIENCE

Senior Research Engineer - AI   06-28-2021 – Present
Bloomberg L.P. (AI - Group)   *New York City*

- **Multimodal & Late-Interaction Research**: Leading research into multimodal search architectures, evaluating Vision-Language Models (VLMs) against traditional text-based retrieval. Implementing late-interaction techniques (e.g., ColPali-style scoring) to improve retrieval precision across diverse data modalities.
- **Agentic Retrieval Decomposition**: Developing agentic retrieval pipelines that utilize query decomposition and recursive refinement to resolve complex, underspecified queries, enabling models to navigate ambiguity in long-horizon information gathering tasks.
- **LLM-based Evaluation Systems**: Designed rigorous evaluation workflows using LLMs-as-a-judge to assess relevance and factuality in RAG systems. Focused on identifying "blind spots" in standard metrics to better capture genuine model capability and reasoning quality.
- **Production RAG Search Architecture**: Engineered a scalable, high-throughput indexing and retrieval framework featuring advanced chunking and hybrid search; reduced internal deployment cycles from months to weeks while maintaining robust inference latency through optimizations.
- **LLM-powered Summarization Safety**: Led the deployment of news summarization systems using Llama 3.1 70B, integrating specialized post-processing layers for AI safety and hallucination mitigation to ensure financial-grade reliability.
- **Research Prototyping**: Advanced NER/NED tasks via CoT prompting and context augmentation, significantly improving F1-scores. Developed custom interpretability and diagnostic UIs to perform real-time error analysis and monitor model distribution shifts in production.

Deep Learning Researcher   12-01-2019 – 05-07-2021
Network-centric and data-driven learning group (UNL)   *Lincoln, NE*

- Led research on self-supervised learning, achieving state-of-the-art results on camera-trap datasets.
- Reduced training time by 50% while improving classification performance $93.5\% - 94.5\%$.

Applied Machine Learning Intern   05-11-2020 – 08-07-2020
Hudl: Applied Machine Learning   *Lincoln, NE*

- Built multi-object tracking systems using Detectron2 and DeepSORT, boosting detection performance to 92%.

THESIS

"The Revolution Will Not Be Supervised": An Investigation of the Efficacy and Reasoning Process of Self-Supervised Representations

JOURNAL ARTICLES

- Atharva Tendle, Mohammad Rashedul Hasan. *A study of the generalizability of self-supervised representations.* Journal of Machine Learning with Applications, Elsevier, 2021

Conference Papers

- Rajarshi Bhowmik, Marco Ponza, **Atharva Tendle**, Anant Gupta, Rebecca Jiang, Xingyu Lu, Qian Zhao, Daniel Preotiuc-Pietro, *Leveraging Contextual Information for Effective Entity Salience Detection*, In Findings of the Association for Computational Linguistics: NAACL 2024, pages 395–408, Mexico City, Mexico. Association for Computational Linguistics.

- **Atharva Tendle**, Andrew Little, Stephen Scott, and Mohammad Rashedul Hasan, *Self Supervised Learning in the Twilight of Noisy Real-World Datasets.* 21st IEEE International Conference on Machine Learning and Applications (ICMLA) 2022.

- Ayush Manish Agrawal, **Atharva A. Tendle**, Harshvardhan D. Sikka, Sahib Singh, and Amr Kayid. *Investigating Learning in Deep Neural Networks using Layer-Wise Weight Change.* Computing Conference 2021

- Ayush Manish Agrawal, **Atharva A. Tendle**, Harshvardhan D. Sikka, Sahib Singh, and Amr Kayid. *Investigating Learning in Deep Neural Networks using Layer-Wise Weight Change.* In Advances in Neural Information Processing Systems(NeurIPS) NewInML Workshop 2020

- Harshvardhan D. Sikka, **Atharva A. Tendle**, and Amr Kayid. *Multimodal Modular Meta-Learning.* In Advances in Neural Information Processing Systems (NeurIPS) Preregister Workshop 2020

- D.Newton , D.Piatkowski , W.Marshall , **A.Tendle**, *Deep Learning Methods for Urban Analysis and Health Estimation of Obesity*, eCAADe 2020

Professional Services

- ACL ARR Reviewer

- ICAIF (ACM International Conference on AI in Finance) Reviewer

Open Source Contributions

LlamaIndex - Data Framework for LLMs September 2025

Open Source Contributor *Python, Apache Solr, Vector Search*

- Solr Reader Integration: Developed comprehensive SolrReader enabling users to query and load documents directly from Apache Solr instances into LlamaIndex ecosystem

- SolrVectorStore Integration: Built ApacheSolrVectorStore with vector similarity search, hybrid search capabilities, and metadata filtering for production RAG applications

Technical Skills

Frameworks Libraries: PyTorch, Pytorch-Lightning, Transformers, TRL, KServe, LangGraph, LlamaIndex, Langchain
Developer Tools: Git, AWS S3, VS Code, Jupyter, Docker

Education

University of Nebraska-Lincoln Lincoln, NE

Master's of Science in Computer Science GPA: 4.0/4.0 *Aug. 2019 – May 2021*

University of Nebraska-Lincoln Lincoln, NE

Bachelor's of Science in Computer Science & Economics GPA: 3.91/4.0 *Aug. 2015 – May 2019*