Dominic Seyler, Ph.D.

Researcher · Generative AI, NLP & Information Retrieval

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SUMMARY

Researcher working at the intersection of generative AI, natural language processing, and information retrieval. At Goldman Sachs I work on retrieval-augmented generation, embedding models, hallucination detection, and Responsible AI for financial documents, work that has led to publications at NeurIPS and IEEE Big Data and to multiple patents. Experienced across the full ML lifecycle, from experimentation and fine-tuning to production deployment, in close collaboration with engineering and product teams.

EXPERIENCE

2023 – now	**Goldman Sachs** · Senior AI Engineer (Vice President), Natural Language Processing
2021 – 2023	**eBay** · Applied Researcher, Search Ranking and Monetization
2020	**Google** · Research Intern, Applied Privacy Research
2019 – 2020	**Regology** · Machine Learning Researcher (part-time)
2018	**Baidu Research USA** · Research Intern, Big Data Lab
2017	**IBM Research** · Research Intern, Cognitive User Experience Lab
2013 – 2016	**Max Planck Institute for Informatics** · Research Assistant, Databases and Information Systems

EDUCATION

2016 – 2021	**Ph.D., Computer Science** · University of Illinois at Urbana-Champaign (Advisor: ChengXiang Zhai)
2013 – 2015	**M.Sc., Computer Science** · Saarland University, Germany (Advisor: Gerhard Weikum)
2009 – 2013	**B.Sc., Applied Computer Science** · University of Applied Sciences Kaiserslautern, Germany

PATENTS

2026	**Retrieval-Augmented Generation (RAG) System Optimization.** US Patent 12,561,314. E. Brenner, D. Seyler
2026	**Data Generation and Retraining Techniques for Fine-Tuning of Bi-Encoding and Cross-Encoding Models for Efficient Data Retrieval.** US Patent App. 19/300,456. E. Brenner, K. Dasgupta, D. Seyler
2025	**System and Method for Generative AI Hierarchical Multi-Agent Monitoring.** Patent pending. L. Ji, D. Seyler, M. G. Hegde, G. Kaur, K. Dasgupta, B. Hu, B. Xiang, D. Doyle

SELECTED PUBLICATIONS · full list on dominicseyler.com

2025	**PHANTOM: A Benchmark for Hallucination Detection in Financial Long-Context QA.** *NeurIPS Datasets & Benchmarks.* L. Ji, D. Seyler, G. Kaur, M. Hegde, K. Dasgupta, B. Xiang
2025	**Adaptation of Embedding Models to Financial Filings via LLM Distillation.** *IEEE Workshop on LLMs for Finance (IEEE BigData).* E. Brenner, D. Seyler, M. Hegde, A. Simion, K. Dasgupta, B. Xiang
2023	**Aligning Ranking Objectives with E-commerce Search Intent.** *SIGIR eCom.* D. Seyler, E. Ebrahimzadeh, A. Cozzi, A. Bagherjeiran
2021	**DarkJargon.net: A Platform for Understanding Underground Conversation with Latent Meaning.** *SIGIR.* D. Seyler, W. Liu, Y. Zhang, X. Wang, C. Zhai
2020	**A Study of Methods for the Generation of Domain-Aware Word Embeddings.** *SIGIR.* D. Seyler, C. Zhai
2018	**A Study of the Importance of External Knowledge in the Named Entity Recognition Task.** *ACL.* D. Seyler, T. Dembelova, L. Del Corro, J. Hoffart, G. Weikum
2015	**Generating Quiz Questions from Knowledge Graphs.** *WWW.* D. Seyler, M. Yahya, K. Berberich

ADDITIONAL

Awards	Goldman Sachs IP Inventor Honors Award (2024, 2025) · eBay Spot Award (2023) · SIGIR Student Travel Grant (2021, 2020, 2018) · UIUC CS Excellence Fellowship (2016)
Reviewing	SIGIR (2022–2024) · WWW (2023) · ESWC (2021, 2022) · WSDM (2020) · ICTIR (2020) · TKDE (2019, 2020) · TNNLS (2018, 2019) · Semantic Web Journal (2017, 2018)
Skills	Python, PyTorch, TensorFlow, scikit-learn, Pandas, NumPy, Java, Scala, R