

Call for Papers: LEMA 2024

Introduction and motivation

The latest LLMs such as Gemini Ultra and GPT-4 are capable of absolutely captivating feats of reasoning and natural language understanding. This is already powering a new wave of transformative AI use cases in e-commerce, and it appears that the pace of innovation is only just beginning to ramp up. E-commerce is undergoing a period of rapid change, with customers demanding seamless, personalized experiences across devices and channels. With vast product selections and dynamic consumer preferences, competition for customer attention and loyalty has become more intense than ever, while exciting new opportunities abound. Traditional approaches such as collaborative filtering or supervised learning may fall short in this complex, fast-paced world and fail to exhibit a deep understanding of customers' concerns, feedback and evolving tastes.

One of the recent and most exciting developments in AI has been the emergence of Large Language Models (LLMs). While it's true that these are essentially ML models trained for "next word prediction", architectural breakthroughs combined with dramatic increases in complexity, computing power and training data have given rise to models capable of astounding performance. LLMs can extract insights from unstructured data such as customer reviews and product descriptions, while search queries can be understood at a level far exceeding basic keyword matching. By understanding the true intent behind complex queries or comments, businesses will be able to identify unmet needs (for example, preferences for sustainable packaging), optimize offerings and produce personalized recommendations that are uniquely tailored to personal preferences. LLMs also hold significant promise for backend e-commerce operations; by leveraging their unparalleled scale and reasoning ability, data scientists will be able to analyze data from a wider range of sources, including market reports and historical data, at scale and at a level of detail and nuance that matches human intelligence, to identify trends and produce actionable insights.

The aim of this workshop is to foster discussion around the emerging role of LLMs in next-generation e-commerce applications, with a focus on topics that are relevant to the ICDM audience. The envisioned target audience will include both researchers in academia and industry practitioners who are interested in exploring the latest advances. We will invite original and unpublished research contributions to LEMA in relevant subjects, including, but not limited to:

- Generative models for novel feature extraction from product descriptions
- Generating data driven, engaging product descriptions with LLMs
- Multimodal recommendations (combining text, image, and other data)
- Utilizing LLMs to process unstructured data and understand implicit user feedback
- LLM-enhanced user embeddings and personalization
- Optimizing voice search and multimodal data in e-commerce
- Fine-tuning vs. prompting - choosing the right approach for e-commerce LLMs
- Context-aware recommendations - leveraging user browsing history
- Integrating LLMs into large-scale recommendation workflows
- Bias and fairness in LLM-powered recommendation systems
- Ethical use of generative models in e-commerce

Paper submission

Two types of submissions are invited:

- Full papers (max 10 pages, inc. bibliography) describing mature work
- Short papers (max 6 pages, inc. bibliography) describing work-in-progress or case studies.

Papers should be formatted according to the IEEE ICDM format (more details [here](#)). Submitted papers will be peer-reviewed and selected on the basis of these reviews. Accepted papers will be presented at the workshop and published in the workshop proceedings

Original contributions and manuscripts can be submitted via this [link](#).

Key Dates

Workshop paper submission deadline: September 10, 2024

Workshop paper acceptance notification: October 7, 2024

Workshop paper camera-ready deadline: October 11, 2024

Workshop day: December 9, 2024

More details regarding the workshop are available from the website: <https://lema2024.github.io>