Introduction to the 8th Annual Lifelog Search Challenge, LSC'25

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Abstract

For the eighth time since 2018, the ACM Lifelog Search Challenge (LSC) was run to compare interactive lifelog search systems in a live metrics-based challenge. The goal of the LSC workshop is to comparatively evaluate the capabilities of systems accessing a large multimodal lifelog. LSC'25 attracted eleven participating teams, each of which had developed an innovative interactive lifelog retrieval system. The benchmark was organised in a hybrid manner at the LSC workshop at ACM ICMR'25 in Chicago, USA. This short paper summarises the LSC workshop setting and presents the participating lifelog search systems.

CCS Concepts

• **Information systems** → **Search interfaces**; **Multimedia and multimodal retrieval**; **Mobile information processing systems**; **Search interfaces**; • **Human-centered computing** → *Interaction techniques*; **Interactive systems and tools**; *Empirical studies in interaction design.*

Keywords

Lifelog, Interactive Retrieval Systems, Benchmarking

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1 Introduction to ACM LSC'25

The eighth annual ACM Lifelog Search Challenge took place during the ACM ICMR'25 conference in Chicago, USA on 30th June 2025. This year we welcomed eleven teams to compete in the challenge, which was run in hybrid mode, with some teams participating in Chicago, but most participating online. LSC'25 reused the complete 18-month multimodal dataset gathered by one lifelogger that was also used in the past three years [1, 4, 5], and which is scheduled to be replaced in 2026 by a larger collection. For LSC'25, we prepared 24 realistic tasks of three types, presented with textual descriptions: ad-hoc/conventional topics, single known item topics, and Q&A-type topics. For both ad-hoc and known-item topics, the results were submitted as one or more images, while the Q&A topics required the submission of a textual answer. To assess correctness beyond known item topics, judges used the judging/scoring interface of the evaluation system DRES [14] for managing the whole challenge. A score for each topic was calculated based on accuracy and combined with the times taken for the known item and Q&A query types, which were averaged over all topics during the competition. LSC'25 results identified the best-performing system.

2 LSC'25 Participating Systems

As with previous instances of the LSC challenge, most systems follow the trend of applying embedding models to support cross-modal retrieval, and increasingly we see the inclusion of LLMs to aid in query formulation and understanding. There is also a clear trend towards integrating conversational approaches to search as well as progressing techniques for automated question answering.

Of the eleven participating systems, three were new to the LSC challenge and the other eight were returning with enhanced systems. The first of the three new systems in LSC'25 is LifeSearch [10] which uses a hybrid retrieval mechanism to incorporate scene-graphs on top of similarity search, as well as a query rewriting strategies to handle complex lifelog queries. The second new system is U-Cker [20], a first generation interactive lifelog retrieval system that integrates multimodal, *multi-query* input with a CLIP-based retrieval model. The third new system is LUMINA-1[7], which

focuses on exploring visual data in a VR-based immersive environment.

The winning system from LSC'23 [15] (lifeXplore) returned in 2025 with a revised system [11] that integrated test-based search using ChatGPT and BLIP2 as well as OpenCLIP. MemoriEase 3.0 [18] is an enhanced version of the previous system [19], which integrates a fusion of embedding models with relevance feedback and RAG to support Q&A. In a similar manner, T-Eagle [9] enhances their 2024 system [8] by adding coherent event-based retrieval using embedding models to support a RAG with LLM based Q&A technique. Likewise Memoria [3], the latest version of 2024's system [2] integrates embedding models with LLMs to optimize queries and introduces numerous interface enhancements to improve the user experience.

MyEachtraX [16] is a revised version of the 2024 system of the same name [17], which is an LLM-based mobile-first application that performs redundancy detection, enhanced event-level retrieval, and temporal probability matrices. VitaChronicle 2 [22] presents updates to the user-friendly 2024 system [21] that integrates user-centered design and adaptive UX strategies. It now integrates a dual-model interface to better support users with different expertise. SnapSeek-3.0[6] builds upon its predecessors by emphasizing egocentric activity recognition and scene graph generation, aiming to achieve a more profound understanding of lifelog images. Finally, LifeGraph 5 [13] builds upon the 2024 system [12] that takes the novel approach of indexing the content into knowledge graphs and leverages links to external data to enhance the semantic meaning of indexed content.

We encourage the interested reader to refer to the full-length LSC'25 system papers in the LSC'25 proceedings.

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