

ACL/EACL 2026 Workshop Proposal: Lifelong Agents: Learning, Aligning, Evolving

1 Topic and Content

“The measure of intelligence is the ability to change.”
— Albert Einstein

Artificial intelligence has reached a critical juncture. We are witnessing rapid advances in reinforcement learning, large language models, and embodied systems, yet most current agents remain bounded by the paradigm of *train once, deploy once*. They demonstrate remarkable performance in benchmarks, but struggle to adapt reliably to new environments, evolving tasks, or long-term deployment. This gap limits their robustness, trustworthiness, and societal value. The concept of the *lifelong agent* offers a new paradigm. Such agents are not static products but dynamic processes: they accumulate knowledge, refine skills, and evolve capabilities across time (Gao and et al., 2025). They must remain focused on their predefined goals, act in alignment with human preferences, and adapt responsibly to changing environments and constraints. Building lifelong agents is not only a technical challenge but also a necessity to see AI systems that are sustainable, trustworthy, and impactful in the real world.

Research communities have explored many of the necessary ingredients, such as continual learning, reinforcement learning, alignment frameworks, post-training adaptation in LLMs, and efficiency methods for resource-constrained agents. Yet these discussions have remained fragmented. This workshop aims to provide the *first unified forum* to bring these strands together, highlighting shared principles and surfacing open challenges. By reframing intelligence as a process that *learns, aligns, and evolves* across an agent’s lifespan, we aim to chart the foundations of agents that endure. Our workshop examines the three key dimensions of lifelong agents: 1) learning across time, the agent continuously acquires and consolidates knowledge and skills without catastrophic forgetting, adapting to non-stationary environments and shifting tasks; 2) alignment over lifespans, the agent remains value-consistent and trustworthy as it adapts, with mechanisms for preference learning and oversight; 3) evolving capabilities, the agent self-improves by reorganizing representations or memory, discovering or creating new strategies and tools, and leveraging

collective intelligence. There are also some cross-cutting requirements that enable progress along all three dimensions, i.e., efficiency and sustainability.

During our workshop, we invite speakers from both academia and industry to share their experiences and opinions on such problems. We will also host a panel to spark discussion and collect questions from the audience. We welcome long (8 page) and short (4 page) paper submissions on topics including:

- *Post-training of Agents*: continual fine-tuning, instruction alignment, domain shift adaptation, agentic reinforcement learning.
- *Real-world Agents*: multi-modal agents, embodied agents, scientific agents, evaluation or benchmarks for real-world applications.
- *Preference-aligned Agent*: safe agent, personalized agent, efficient agents, self-aware agents.
- *Self-evolving Agents*: memory-augmented agents, autonomous refinement of reasoning or tools, self-improving agents.
- *Multi-agent Systems*: cooperation, competition, negotiation, and collectives of adaptive agents.

By convening diverse communities under the unifying theme of lifelong agents, this workshop will not only highlight cutting-edge research but also identify gaps, foster cross-pollination, and articulate a roadmap for AI agents that are not just intelligent, but intelligently persistent.

2 Invited Speakers

We have invited 6 speakers from both academia and industry to share expert insights on better behavior of LLM-based agents. Each keynote will be 45 minutes. We have a 30-minute panel discussion among all invited speakers during the workshop.

3 Workshop Program

Oral and poster session. The workshop will have 4 top accepted submissions for the oral session (each 15 min). About 40 accepted posters will be scheduled at two separate poster sessions (each 45 minutes).

Attendance. Based on the situation of previous workshops with similar topics, we estimate that there will be 150-200 attendees.

Speaker	Status
Yu Su (OSU)	Accepted (Tentative)
Jason Weston (Meta, NYU)	mailed
Siva Reddy (McGill, Mila)	Accepted
Denny Zhou (Google)	mailed
Sergey Levine (UC, Berkeley)	Accepted (Tentative)
Dimitris Papailiopoulos (Microsoft)	mailed
Azalia Mirhoseini (Stanford)	mailed
Graham Neubig (CMU)	Accepted
Yejin Choi (Stanford)	
Hannaneh Hajishirz (UW)	
Dawn Song (UC, Berkeley)	Accepted
Shunyu Yao (OpenAI)	

Table 1: Invited Speaker.

Review system. We will use OpenReview as the submission platform and accept both submissions from ACL Rolling Review (ARR) and direct submissions.

Shared tasks. Our workshop does not consider sessions for shared-tasks.

4 Workshop Schedule

We anticipate a full-day workshop with the following tentative schedule. Our principles are 1) striking a balance between invited talks—delivered primarily by senior researchers on well-established topics—and spotlight/poster presentations that showcase emerging insights and advancements; 2) allocating time thoughtfully (e.g., avoiding sessions during lunch) to maximize engagement in poster sessions, coffee chats, and informal discussions; and 3) making the most of the available time slots to ensure a rich and interactive workshop experience.

Activity type	Time
Opening	9:00-9:15
Keynote	9:15-10:00
Keynote	10:00-10:45
Coffee Break	10:45-11:15
Panel Discussion I	11:15-11:45
Poster Session I	11:45-12:30
Lunch	12:30-14:00
Keynote	14:00-14:45
Keynote	14:45-15:30
Coffee Break	15:30-16:00
Poster Session II	16:00-16:45
Panel Discussion II	16:45-17:15
Awards & Wrap-up	17:15-17:30

Table 2: Single-Day Workshop Schedule.

To encourage more in-depth and structured discussions among workshop contributions (likely bringing more fresh ideas and insights) and attendees, we managed to allocate a total of 3.75h for structured discussions (orals, posters, coffee socials, panels), roughly **53%** of the program (lunch break excluded). **Please note** that the schedule is still tentative and we’re more than happy to loop in any feedback from the reviewers of this proposal.

Hybrid Arrangements. To support the hybrid format, our keynote speeches, panel discussions, oral sessions, and the corresponding Q&A sessions will also be accessible via Zoom. We will also set up an asynchronous poster session for both poster and oral papers to encourage interaction between paper authors and virtual attendees. Our workshop does not require special equipment beyond the standard video conferencing setup. We will also provide the reading list and other materials at our workshop website.

5 Diversity and Inclusion

Diverse representation. We have a diverse organizer team across multiple institutions (UIUC, Oxford, Princeton, SUSTech) and speaker team (Meta, OSU, Mila, Stanford, CMU, OpenAI) with varying seniority (ranging from senior PhD students to assistant/full professors and research scientists), gender (2 out of 9 organizers are female researchers), geography (including North America, Europe, Asia), race, and ethnicity.

Academic diversity. The organizer team bring complementary expertise across multiple facets of LLM agents, spanning both academia and industry. For instance, Cheng, Hongru, and Jiahao contribute strong backgrounds in agent design and development; Emre and Dilek specialize in conversational AI; while Manling, Zhenfei, and Philip add perspectives from vision and embodied agents. **we do not have manling and philip/dilek in organizer currently.**

Diversifying participation. The call-for-papers aims to bridge researchers from different sub-communities within NLP (such as efficient NLP, data synthesis, safety, evaluation, etc) and outside NLP (such as representation learning, data science, etc), and will encourage people from marginalized groups by providing mentoring.

6 Other Information

Our workshop will prioritize accessibility through the following measures:

Open Access Materials. All accepted papers will be published on our website (hosted via OpenReview) **prior to the workshop** to encourage engagement. Post-event, we will publicly archive slides, talk recordings (with permission), and related resources for long-term access.

Broad Outreach. Promote the workshop via social media (X, LinkedIn, Mastodon) and blog posts to engage both academic and general audiences.

Financial support. We are in the process of finalizing the details of financial support. The money will be used to provide best paper awards and registration support to minority groups and fund other workshop logistics. **maybe give more details?**

Preferred venue. ACL 2026 > EACL 2026.

Conflict of interest management. Leverage the OpenReview platform’s built-in conflict avoidance system during paper review. Program Committee members will be instructed to flag conflicts and avoid disclosing assignments. Reviewers with unresolved conflicts will be re-assigned to maintain integrity.

7 Workshop Organizing Team

7.1 Workshop Organizers

- **Cheng Qian** (chengq9@illinois.edu) is a Ph.D. student at the University of Illinois Urbana-Champaign. His research centers on large language model agents, with emphasis on tool use, reasoning, and creativity. He has been awarded the Capital One ASKS Center Fellowship. Prior to UIUC, he earned his bachelor’s degree from Tsinghua University.
- **Emre Can Ackigoz** (acikgoz2@illinois.edu) is a PhD candidate in Computer Science at UIUC advised by Dilek Hakkani-Tur and Gokhan Tur. His research focus is in Conversational Agents and Large Language Models. He is currently an Applied Scientist Intern at Amazon Alexa AI.
- **Hongru Wang** (hrwise98@gmail.com) is an incoming postdoc at University of Edinburgh. He received his PhD degree from The Chinese University of Hong Kong. His work on dialogue system and language agents won 2 best paper

awards at 2023 International Doctoral Forum and SIGHAN@ACL 2024. Some of his representative works include Self-DC, OTC-PO and Theory of Agent. He organized the first Tool Learning tutorial (i.e., [ToolsMeetLLM](#)) at SIGIR 2024 and he is the co-founder and organizer of NLP Academic Exchange Platform (NICE), which provide a platform to share and discuss cutting-edge research for junior and senior researcher in the field.

- **Jiahao Qiu** (jq3984@princeton.edu) is a Ph.D. student at Princeton University. His research focuses on large language models and language agents, with representative contributions including Alita, AgentDistill and first self-evolving agent survey.
- **Zhenfei Yin** (jeremyyin@robots.ox.ac.uk) is a postdoctoral researcher at the University of Oxford. His primary research interests include multimodal learning, AI agents, multi-agent systems, and embodied agents. He has organized the [workshop on Trustworthy Multimodal Foundation Models and AI Agents \(TiFA\)](#) at ICML 2024; the [workshop on Multi-modal Foundation Model meets Embodied AI](#) at ICML 2024; the [workshop on Multi-Agent Systems in the Era of Foundation Models: Opportunities, Challenges and Futures](#) at ICML 2025; the [workshop on Multi-Modal Reasoning for Agentic Intelligence](#) at ICCV 2025; the [workshop on Reliable and Interactable World Models: Geometry, Physics, Interactivity, and Real-World Generalization](#) at ICCV 2025. He has also organized the workshop challenge on Sensing, Understanding, and Synthesizing Humans at ECCV 2020.
- **Guanhua Chen** (chengh3@sustech.edu.cn) is an assistant professor from Southern University of Science and Technology in China. He works on data synthesis and reasoning LLMs in agentic applications. He received his PhD and Bachelor degrees from The University of Hong Kong and Tsinghua University, respectively.
- **Yun-Nung (Vivian) Chen** (chengh3@sustech.edu.cn) is a distinguished Professor in the Department of Computer Science & Information Engineering at National Taiwan University (NTU). She completed her M.S. and Ph.D. in Computer Science at Carnegie Mellon University in 2015 and also holds B.S. and M.S. degrees from NTU. Her

research centers on spoken dialogue systems, spoken language understanding, multimodal applications, and deep learning, with a broader interest in enhancing machine intelligence and human-machine communication. Dr. Chen has garnered numerous accolades, including the Taiwan Outstanding Young Women in Science Award, Google Faculty Research Award, Amazon AWS Machine Learning Research Award, MOST Young Scholar Fellowship, and FAOS Young Scholar Innovation Award. She was also recognized among the World's Top 2% Scientists in 2023. Before joining NTU, she conducted postdoctoral research at the Deep Learning Technology Center at Microsoft Research, Redmond.

Contacts for all communications: Cheng Qian, Emre Can Acikgoz, Hongru Wang.

7.2 Workshop Advising Committee

- **Heng Ji** (hengji@illinois.edu) is a Professor at Computer Science Department of University of Illinois Urbana-Champaign, and an Amazon Scholar. Her research interests focus on NLP, Data Mining and AI for Science. The awards she received include “AI’s 10 to Watch” Award, NSF CAREER award, Google Research Award, IBM Watson Faculty Award, Bosch Research Award, and Amazon AWS Award, ACL2020 Best Demo Paper Award, and NAACL2021 Best Demo Paper Award. She has coordinated the NIST TAC Knowledge Base Population task since 2010. She is elected as the North American Chapter of the Association for Computational Linguistics (NAACL) secretary 2020-2021. Additional information is available at <https://blender.cs.illinois.edu/hengji.html>.
- **Mengdi Wang** (mengdiw@princeton.edu) is an associate professor at the Department of Electrical and Computer Engineering and Center for Statistics and Machine Learning at Princeton University. She founded and co-directs Princeton AI for Accelerated Invention, and also affiliated with the Princeton ML Theory Group and Princeton Language+Intelligence Initiative. She was named one of MIT Technology Review’s 35 Under 35 in 2018 and is a visiting research scientist at DeepMind, Institute of Advanced Studies, and Simons Institute on Theoretical Computer Science.
- **Kam-Fai Wong** (kfwong@se.cuhk.edu.hk) is a professor in the Department of Systems Engineering and Engineering Management at The Chinese University of Hong Kong. He is a member of the ACM, Senior Member of IEEE as well as Fellow of ACL, BCS (UK), IET (UK) and HKIE. He is the founding Editor-In-Chief of ACM Transactions on Asian Language Processing (TALIP), and serves as associate editor of International Journal on Computational Linguistics and Chinese Language Processing.
- **Dilek Hakkani-Tur** (dilek@illinois.edu) is a Professor of Computer Science at University of Illinois, Urbana-Champaign and an Amazon Scholar (at Amazon Health Science). More recently, she worked as a senior principal scientist at Amazon Alexa AI focusing on enabling natural dialogues with machines (2018-2023). Prior to that, she was leading a dialogue research team at Google Research (2016-2018), a principal researcher at Microsoft Research (2010-2016), International Computer Science Institute (ICSI, 2006-2010) and AT&T Labs-Research (2001-2005). She received her BSc degree from Middle East Technical Univ, in 1994, and MSc and PhD degrees from Bilkent Univ., Department of Computer Engineering, in 1996 and 2000, respectively.
- **Philip Torr** (philip.torr@eng.ox.ac.uk) did his PhD (DPhil) at the Robotics Research Group of the University of Oxford under Professor David Murray of the Active Vision Group. He worked for another three years at Oxford as a research fellow, and still maintains close contact as visiting fellow there. He left Oxford to work for six years as a research scientist for Microsoft Research, first in Redmond, USA, in the Vision Technology Group, then in Cambridge founding the vision side of the Machine Learning and Perception Group. He then became a Professor in Computer Vision and Machine Learning at Oxford Brookes University, where he has brought in over one million pounds in grants for which he is PI. Recently in 2013, Philip returned to Oxford as full professor where he has established the Torr Vision group.
- **Jun Wang** (jun.wang@cs.ucl.ac.uk) is a professor from Department of Computer Science at University College London.

- **Gokhan Tur** (gokhan@illinois.edu) is Research Professor at the University of Illinois Urbana-Champaign and an Amazon Scholar. He was a founding member of the Microsoft Cortana team, and later the Conversational Systems Lab at Microsoft Research (2010-2016). He worked as the Conversational Understanding Architect at Apple Siri team (2014-2015) and as the Deep Conversational Understanding TLM at Google Research (2016-2018). He was a founding area director at Uber AI (2018-2020). He was a Senior Principal Scientist at Amazon Alexa AI (2020-2023). Prof. Tur is also the recipient of the IEEE SPS Best Paper Award for 2020, Speech Communication Journal Best Paper awards by ISCA for 2004-2006 and by EURASIP for 2005-2006. Dr. Tur is the organizer of the HLT-NAACL 2007 Workshop on Spoken Dialog Technologies, and the HLT-NAACL 2004 and AAAI 2005 Workshops on SLU, and the editor of the Speech Communication Issue on SLU in 2006. He is also the organizer of IEEE SLT 2010 workshop and helped organization of all speech and language processing conferences in various capacities, most recently as senior area chair of EMNLP 2024 and NAACL 2024. Prof. Tur is a Fellow of IEEE, and member of ACL and ISCA. He was a member of IEEE Speech and Language Technical Committee (SLTC) (2006-2008), member of the IEEE SPS Industrial Relations Committee (2013-2014) and an associate editor for the IEEE Transactions on Audio, Speech, and Language Processing (2010-2014), and Multimedia Processing (2014-2016) journals. He received the Ph.D. degree in Computer Science from Bilkent University, Turkey in 2000.

8 Program Committee

We have maintained a regular reviewer pool of approximately 500 members. Building on our extensive experience in organizing workshops and engaging reviewers with relevant expertise, we have invited around 300 Program Committee members to participate in this workshop.

References

- Huanang Gao and Jiayi Geng et al. 2025. [A survey of self-evolving agents: On path to artificial super intelligence](#). *Preprint*, arXiv:2507.21046.