Novelty Assessment Report

Paper: Context Learning for Multi-Agent Discussion
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Abstract

Multi-Agent Discussion (MAD) has garnered increasing attention very recently, where multiple LLM instances collaboratively solve problems via structured discussion. However, we find that current MAD methods easily suffer from discussion inconsistency—LLMs fail to reach a coherent solution—due to the misalignment between their individual contexts. In this paper, we introduce a multi-LLM context learning method (M2CL) that learns a context generator for each agent, capable of dynamically generating context instructions per discussion round via automatic information organization and refinement. Specifically, inspired by our theoretical insights on the context instruction, M2CL train the generators to control context coherence and output discrepancies via a carefully crafted self-adaptive mechanism. It enables LLMs to avoid premature convergence on “majority noise” and progressively reach the correct consensus. We evaluate M2CL on challenging tasks, including academic reasoning, embodied tasks, and mobile control. The results show that the performance of M2CL significantly surpasses existing methods by 20\%--50\%, while enjoying favorable transferability and computational efficiency.

Disclaimer

This report is **AI-GENERATED** using Large Language Models and WisPaper (a scholar search engine). It analyzes academic papers' tasks and contributions against retrieved prior work. While this system identifies **POTENTIAL** overlaps and novel directions, **ITS COVERAGE IS NOT EXHAUSTIVE AND JUDGMENTS ARE APPROXIMATE**. These results are intended to assist human reviewers and **SHOULD NOT** be relied upon as a definitive verdict on novelty.

Note that some papers exist in multiple, slightly different versions (e.g., with different titles or URLs). The system may retrieve several versions of the same underlying work. The current automated pipeline does not reliably align or distinguish these cases, so human reviewers will need to disambiguate them manually.

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Core Task Landscape

This paper addresses: **Multi-agent discussion with large language models**
A total of **50 papers** were analyzed and organized into a taxonomy with **24 categories**.

Taxonomy Overview

The research landscape has been organized into the following main categories:

- **Multi-Agent System Architectures and Frameworks**
- **Collaboration Mechanisms and Communication Protocols**
- **Training and Optimization Methods**
- **Evaluation and Benchmarking**
- **Domain-Specific Applications**
- **Surveys and Theoretical Foundations**

Complete Taxonomy Tree

- Multi-agent discussion with large language models Survey Taxonomy
- Multi-Agent System Architectures and Frameworks
  - General-Purpose Multi-Agent Frameworks (4 papers)
  - [4] Autogen: Enabling next-gen LLM applications via multi-agent conversations (Q Wu, 2024) View paper
  - [9] Large language model based multi-agent system augmented complex event processing pipeline (Zeeshan, 2024) View paper
  - [17] A survey on LLM-based multi-agent systems: workflow, infrastructure, and challenges (Xinyi Li, 2024) View paper
  - [41] Exploration of llm multi-agent application implementation based on langgraph+ crewai (Duan Zhi-hua, 2024) View paper
  - Self-Adaptive and Autonomic Multi-Agent Systems (2 papers)
  - [7] Self-adaptive large language model (llm)-based multiagent systems (NathÃ¡lia Nascimento, 2023) View paper
  - [45] Dynamic llm-agent network: An llm-agent collaboration framework with agent team optimization (Liu, 2023) View paper
  - Visualization and Exploration Tools (2 papers)
  - [23] Agentcoord: Visually exploring coordination strategy for llm-based multi-agent collaboration (Pan Bo, 2025) View paper
  - [42] ConvoMap: Interactive Visualizations for Exploring Complex Conversations in Multi-Agent Systems (AG Zhang, 2025) View paper
- Collaboration Mechanisms and Communication Protocols
  - Debate and Deliberation Mechanisms (5 papers)
  - [2] Encouraging divergent thinking in large language models through multi-agent debate (Liang Tian, 2024) View paper
  - [6] Multi-agent debate strategies to enhance requirements engineering with large language models (Marc Oriol, 2025) View paper
  - [20] The Truth Becomes Clearer Through Debate! Multi-Agent Systems with Large Language Models Unmask Fake News (Yuhan Liu, 2025) View paper
  - [24] Multi-agent LLM debate unveils the premise left unsaid (Hosoon Ku, 2025) View paper
  - [36] Chateval: Towards better llm-based evaluators through multi-agent debate (Chan, 2023) View paper
  - Aggregation and Voting Methods (1 papers)
  - [21] Debate or Vote: Which Yields Better Decisions in Multi-Agent Large Language Models? (Choi, 2025) View paper
  - Context Learning and Communication Optimization ★ (3 papers)
  - [0] Context Learning for Multi-Agent Discussion (Anon et al., 2026) View paper
  - [32] Talk structurally, act hierarchically: A collaborative framework for llm multi-agent systems (Wang Zhao, 2025) View paper
  - [37] Beyond self-talk: A communication-centric survey of llm-based multi-agent systems (Yan Bing-yu, 2025) View paper
  - General Collaboration Strategies and Social Dynamics (4 papers)

- [19] Multi-agent collaboration mechanisms: A survey of llms (Khanh-Tung Tran, 2025) View paper
- [22] Collaborative reasoner: Self-improving social agents with synthetic conversations (A Ni, 2025) View paper
- [25] Exploring collaboration mechanisms for llm agents: A social psychology view (Jintian Zhang, 2023) View paper
- [39] Camel: Communicative agents for" mind" exploration of large language model society (Li, 2023) View paper

- Training and Optimization Methods
  - Reinforcement Learning for Multi-Agent Systems (3 papers)
  - [11] Maporl: Multi-agent post-co-training for collaborative large language models with reinforcement learning (Park Chanâ□□Woo, 2025) View paper
  - [43] Towards efficient llm grounding for embodied multi-agent collaboration (Zhang Yang, 2025) View paper
  - [47] ACC-collab: An actor-critic approach to multi-agent LLM collaboration (Estornell, 2024) View paper
  - Distillation and Knowledge Transfer (1 papers)
  - [29] Magdi: Structured distillation of multi-agent interaction graphs improves reasoning in smaller language models (Justin Chih-Yao Chen, 2024) View paper
  - Efficiency and Scalability Optimization (1 papers)
  - [46] Optima: Optimizing effectiveness and efficiency for llm-based multi-agent system (Chen Weize, 2025) View paper
- Evaluation and Benchmarking
  - Reasoning and Problem-Solving Benchmarks (3 papers)
  - [16] Rethinking the bounds of llm reasoning: Are multi-agent discussions the key? (Wang Zihao, 2024) View paper
  - [28] Multi-agent large language models for conversational task-solving (Becker, 2024) View paper
  - [38] Agentsnet: Coordination and collaborative reasoning in multi-agent llms (GrÄ¶tschla, 2025) View paper
  - Coordination and Collaboration Benchmarks (3 papers)
  - [8] Llm-coordination: evaluating and analyzing multi-agent coordination abilities in large language models (Saaket Agashe, 2025) View paper
  - [26] Multiagentbench: Evaluating the collaboration and competition of llm agents (Zhu Kunlun, 2025) View paper
  - [44] Collab-Overcooked: Benchmarking and evaluating large language models as collaborative agents (Sun Haochen, 2025) View paper
  - Embodied and Interactive Environment Benchmarks (1 papers)
  - [27] Collaborating Action by Action: A Multi-agent LLM Framework for Embodied Reasoning (Nottingham, 2025) View paper
- Domain-Specific Applications
  - Healthcare and Medical Diagnosis (2 papers)
  - [12] Enhancing diagnostic capability with multi-agents conversational large language models (Xi Chen, 2025) View paper
  - [40] MultiAgentESC: A LLM-based Multi-Agent Collaboration Framework for Emotional Support Conversation (Yangyang Xu, 2025) View paper
  - Software Engineering and Requirements Analysis (1 papers)
  - [15] LLM-Based Multi-Agent Systems for Software Engineering: Literature Review, Vision, and the Road Ahead (Junda He, 2025) View paper
  - Autonomous Driving and Robotics (1 papers)
  - [5] Multi-agent autonomous driving systems with large language models: A survey of recent advances (Wu, 2025) View paper
  - Simulation and Social Modeling (1 papers)
  - [1] War and peace (waragent): Large language model-based multi-agent simulation of world wars (Hua, 2023) View paper
  - Cybersecurity and Incident Response (1 papers)
  - [30] AutoBnB: Multi-Agent Incident Response with Large Language Models (Zefang Liu, 2025) View paper
  - Scientific and Engineering Problem-Solving (2 papers)
  - [35] MechAgents: Large language model multi-agent collaborations can solve mechanics problems, generate new data, and integrate knowledge (Ni Bo, 2024) View paper
  - [49] Multi-Agent Causal Discovery Using Large Language Models (Xia Xin, 2024) View paper
  - Decision-Making and Policy Analysis (1 papers)
  - [18] Finding common ground: Using large language models to detect agreement in multi-agent decision conferences (Ibrahim Mohamed, 2025) View paper
  - Information Verification and Content Moderation (1 papers)
  - [50] An LLM-Enhanced Multi-agent Architecture for Conversation-Based Assessment (Xinying Hou, 2025) View paper
- Surveys and Theoretical Foundations
  - General Multi-Agent System Surveys (3 papers)
  - [3] Exploring large language model based intelligent agents: Definitions, methods, and prospects (Cheng Yuheng, 2024) View paper
  - [10] Agentic large language models, a survey (Plaat, 2025) View paper
  - [14] Large language model based multi-agents: A survey of progress and challenges (Guo, 2024) View paper
  - Specialized Surveys on Decision-Making and Collaboration (2 papers)
  - [31] LLM-Based Multi-Agent Decision-Making: Challenges and Future Directions (Chuanneng Sun, 2025) View paper
  - [33] Llm-based multi-agent reinforcement learning: Current and future directions (Chuanneng Sun, 2024) View paper
  - Conceptual Frameworks and Taxonomies (3 papers)
  - [13] Multi-agent collaboration: Harnessing the power of intelligent llm agents (Talebirad, 2023) View paper
  - [34] MASTER: A multi-agent system with LLM specialized MCTS (Gan Bing-zheng, 2025) View paper
  - [48] The multi-agent system based on llm for online discussions (Dong, 2024) View paper

Narrative

Core task: Multi-agent discussion with large language models. The field has evolved into a structured landscape with several major branches. Multi-Agent System Architectures and Frameworks establish the foundational designs—ranging from modular platforms like Autogen[4] to specialized coordination schemes—while Collaboration Mechanisms and Communication Protocols explore how agents exchange information, negotiate roles, and refine shared context. Training and Optimization Methods address learning strategies that improve agent policies and coordination over time, often blending reinforcement learning with LLM fine-tuning. Evaluation and Benchmarking provide standardized testbeds and metrics to compare different multi-agent setups, and Domain-Specific Applications demonstrate how these systems tackle real-world problems in areas such as autonomous driving, medical diagnosis, and strategic games. Finally, Surveys and Theoretical Foundations synthesize emerging principles and offer conceptual frameworks for understanding agent interactions at scale.

Within Collaboration Mechanisms and Communication Protocols, a particularly active line of work focuses on context learning and communication optimization—how agents dynamically adapt their messaging strategies and shared representations to improve collective reasoning. Context Learning for Multi-Agent[0] sits squarely in this cluster, emphasizing methods that let agents refine contextual cues during discussion rounds. Nearby efforts like Talk structurally act hierarchically[32] and Beyond self-talk[37] explore structured communication patterns and richer inter-agent dialogue, highlighting trade-offs between rigid protocols and flexible, emergent exchanges. Other branches investigate debate-driven refinement (e.g., Multi-agent debate strategies[6]) or coordination under resource constraints (e.g., Llm-coordination[8]), raising open questions about when to prioritize consensus versus diversity of viewpoints. The original paper's focus on context learning places it at the intersection of communication design and adaptive optimization, contrasting with works that rely more heavily on predefined interaction templates or external orchestration layers.

Related Works in Same Category

The following **2 sibling papers** share the same taxonomy leaf node with the original paper:

1. Talk structurally, act hierarchically: A collaborative framework for llm multi-agent systems

Authors: Wang Zhao, Zhao Wang, Wang, Wei-Yao, Sota Moriyama, et al. (11 authors total) | **Year/Venue**: 2025 | **URL**: View paper

Abstract

Recent advancements in LLM-based multi-agent (LLM-MA) systems have shown promise, yet significant challenges remain in managing communication and refinement when agents collaborate on complex tasks. In this paper, we propose \textit{Talk Structurally, Act Hierarchically (TalkHier)}, a novel framework that introduces a structured communication protocol for context-rich exchanges and a hierarchical refinement system to address issues such as incorrect outputs, falsehoods, and biases. \textit{TalkH...

Relationship Analysis

Both papers belong to the Context Learning and Communication Optimization category, focusing on improving multi-agent discussion through better context management and communication protocols. They overlap in addressing context instruction refinement and information organization to enhance agent collaboration. However, the original paper (M2CL) learns dynamic context generators that evolve per discussion round via automatic information organization, while the candidate paper (TalkHier) introduces a structured communication protocol with hierarchical refinement teams rather than learning context generators.

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2. Beyond self-talk: A communication-centric survey of llm-based multi-agent systems

Authors: Yan Bing-yu, Zhou Zhi-bo, Bingyu Yan, Zhang Litian, Xiaoming Zhang, et al. (16 authors total) | **Year/Venue**: 2025 | **URL**: View paper

Abstract

Large language model-based multi-agent systems have recently gained significant attention due to their potential for complex, collaborative, and intelligent problem-solving capabilities. Existing surveys typically categorize LLM-based multi-agent systems (LLM-MAS) according to their application domains or architectures, overlooking the central role of communication in coordinating agent behaviors and interactions. To address this gap, this paper presents a comprehensive survey of LLM-MAS from a ...

Relationship Analysis

Both papers belong to the Context Learning and Communication Optimization category, focusing on improving multi-agent discussion through better context management and communication mechanisms. The original paper (M2CL) specifically addresses context learning by training generators to dynamically produce context instructions per discussion round, controlling context coherence and output discrepancies through a self-adaptive mechanism. The candidate paper provides a comprehensive survey of LLM-based multi-agent systems from a communication-centric perspective, analyzing system-level and internal communication dimensions including architectures, goals, protocols, strategies, and paradigms, offering a broader taxonomic framework rather than a specific technical solution for context optimization.

Contributions Analysis

Overall novelty summary. The paper proposes M2CL, a multi-LLM context learning method that trains context generators to dynamically produce instructions per discussion round, addressing discussion inconsistency in multi-agent systems. It resides in the 'Context Learning and Communication Optimization' leaf, which contains only three papers total, including this one. This represents a relatively sparse research direction within the broader taxonomy of 50 papers across 36 topics, suggesting the specific focus on learned context generation for multi-agent discussion is not yet heavily explored.

The taxonomy reveals that M2CL's leaf sits within 'Collaboration Mechanisms and Communication Protocols', adjacent to leaves focused on debate mechanisms, aggregation methods, and general collaboration strategies. Neighboring work includes structured debate approaches and voting-based consensus methods, which typically rely on fixed protocols rather than learned context adaptation. The taxonomy's scope notes clarify that this leaf specifically covers learning-based communication optimization, distinguishing it from static protocols or debate-without-learning approaches found in sibling branches.

Among 27 candidates examined across three contributions, no clearly refuting prior work was identified. The core M2CL method examined 10 candidates with zero refutations, the lightweight initialization approach examined 7 with zero refutations, and the self-adaptive balancing mechanism examined 10 with zero refutations. This limited search scope—focused on top-K semantic matches and citation expansion—suggests that within the examined literature, the specific combination of learned context generation, self-adaptive balancing, and multi-round refinement appears relatively unexplored, though the analysis does not claim exhaustive coverage.

Based on the limited search of 27 candidates, the work appears to occupy a distinct position within context learning for multi-agent systems. The sparse population of its taxonomy leaf and absence of refuting candidates among those examined suggest potential novelty, though the analysis acknowledges it cannot rule out relevant work outside the top-K semantic neighborhood or in adjacent research communities not captured by this search strategy.

This paper presents **3 main contributions**, each analyzed against relevant prior work:

Contribution 1: Multi-LLM context learning method (M2CL)

Description: The authors propose M2CL, a method that trains context generators for each agent in multi-agent discussion systems. These generators dynamically produce context instructions at each discussion round through automatic information organization and refinement, addressing the problem of discussion inconsistency caused by context misalignment between LLMs.

This contribution was assessed against **10 related papers** from the literature. Papers with potential prior art are analyzed in detail with textual evidence; others receive brief assessments.

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1. Layoutcopilot: An llm-powered multi-agent collaborative framework for interactive analog layout design

URL: View paper

Brief Assessment

Layoutcopilot[60] focuses on interactive analog layout design using multi-agent LLM collaboration for translating natural language to executable commands, not on context learning for multi-agent discussion systems with dynamic instruction generation.

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2. Autogen: Enabling next-gen LLM applications via multi-agent conversations

URL: View paper

Brief Assessment

Autogen[4] focuses on multi-agent conversation frameworks where agents have fixed roles and capabilities, using conversation programming to coordinate agent interactions. This differs from M2CL's dynamic context generation approach that trains generators to produce evolving context instructions per discussion round to address context misalignment issues in multi-agent discussions.

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3. Auto-scaling LLM-based multi-agent systems through dynamic integration of agents

URL: View paper

Brief Assessment

Auto-scaling LLM-based multi-agent systems[63] focuses on dynamic agent generation and integration in multi-agent systems, not on context learning for multi-agent discussion. The candidate addresses agent creation/scaling, while M2CL addresses context instruction generation for existing agents during discussion rounds.

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4. SituationalLLM: Proactive language models with scene awareness for dynamic, contextual task guidance

URL: View paper

Brief Assessment

SituationalLLM[62] focuses on integrating structured scene graphs for context-aware task guidance in physical environments, not on multi-agent discussion systems with dynamic context generators. The technical approaches and problem domains differ fundamentally.

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5. Reflective multi-agent collaboration based on large language models

URL: View paper

Brief Assessment

Reflective multi-agent collaboration based[59] focuses on multi-agent reflection mechanisms with counterfactual rewards for credit assignment, not on context generators for dynamic instruction generation in multi-agent discussion systems.

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6. Grounding Natural Language for Multi-agent Decision-Making with Multi-agentic LLMs

URL: View paper

Brief Assessment

Grounding Natural Language for[65] focuses on multi-agent decision-making in game-theoretic settings using prompt engineering and fine-tuning, not on context generators for multi-agent discussion systems with dynamic instruction generation per discussion round.

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7. Reasoning-Aware Prompt Orchestration: A Foundation Model for Multi-Agent Language Model Coordination

URL: View paper

Brief Assessment

Reasoning-Aware Prompt Orchestration[64] focuses on dynamic prompt orchestration for multi-agent coordination through state-space representations and consensus mechanisms, rather than training context generators for discussion systems. The technical approaches differ fundamentally: M2CL trains generators to produce context instructions per discussion round, while [64] employs distributed consensus protocols and adaptive routing for agent coordination.

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8. Dynamic multi-agent orchestration and retrieval for multi-source question-answer systems using large language models

URL: View paper

Brief Assessment

Dynamic multi-agent orchestration and[61] focuses on multi-source question-answer systems using specialized agents (SQL agents, RAG agents, router agents) for information retrieval across structured and unstructured data sources. This differs fundamentally from M2CL's focus on training context generators for multi-agent discussion systems to address context misalignment and discussion inconsistency through dynamic instruction generation.

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9. Collaborative reasoner: Self-improving social agents with synthetic conversations

URL: View paper

Brief Assessment

Collaborative reasoner[22] focuses on multi-agent collaborative reasoning through natural conversations with social behavior metrics (persuasion, assertion), not on context generators for multi-agent discussion systems with dynamic instruction generation as in M2CL.

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10. Emergent coordination in multi-agent language models

URL: View paper

Brief Assessment

Emergent coordination in multi-agent[58] focuses on information-theoretic analysis of emergent synergy in multi-agent systems using a group guessing task, not on training context generators for multi-agent discussion systems with dynamic instruction generation as in M2CL.

Contribution 2: Lightweight context initialization approach

Description: The authors develop a context initialization method that assigns diverse initial instructions to LLMs. These instructions are approximately orthogonal in latent space, enabling sufficient coverage of complementary solution perspectives and expanding the search space for solutions.

This contribution was assessed against **7 related papers** from the literature. Papers with potential prior art are analyzed in detail with textual evidence; others receive brief assessments.

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1. Forecasting carbon market with a multi-agent system of large language model

URL: View paper

Brief Assessment

The candidate paper focuses on carbon market forecasting using multi-agent LLM systems, not on general reinforcement learning frameworks or multi-agent discussion systems for complex reasoning tasks. The provided context fragments are insufficient to assess any overlap with context initialization strategies.

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2. Multi-dimensional Stackelberg Game-based Incentive Mechanism for Differential Private Federated Learning with Non-IID Data

URL: View paper

Brief Assessment

Multi-dimensional Stackelberg Game-based Incentive[57] focuses on reinforcement learning for federated learning with differential privacy and game-theoretic incentive mechanisms. The mention of 'orthogonal initialization schemes' refers to neural network weight initialization in RL agents, not to diverse instruction initialization for multi-agent LLM discussion systems as in the original paper.

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3. PublicAgent: Multi-Agent Design Principles From an LLM-Based Open Data Analysis Framework

URL: View paper

Brief Assessment

PublicAgent[55] focuses on multi-agent system design principles for data analysis workflows, not on context initialization strategies for multi-agent LLM systems. The candidate does not address orthogonal initialization in latent space or diverse initial instructions.

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4. Divide, Optimize, Merge: Scalable Fine-Grained Generative Optimization for LLM Agents

URL: View paper

Brief Assessment

Divide Optimize Merge[52] focuses on dividing large optimization tasks into subsets and merging optimized components for LLM agent systems, not on initializing diverse orthogonal contexts for multi-agent discussion. The technical approaches and problem domains are fundamentally different.

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5. xLSTM for competitive game-play in multi-agent scenarios/Author Elias BÃ¼rger, BSc

URL: View paper

Brief Assessment

xLSTM for competitive game-play[53] focuses on training reinforcement learning models for multi-agent video game scenarios using the xlSTM architecture, not on context initialization strategies for multi-agent LLM systems or diverse orthogonal initialization methods for language models.

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6. Multi-Agent LLM Systems: From Emergent Collaboration to Structured Collective Intelligence

URL: View paper

Brief Assessment

Multi-Agent LLM Systems[54] mentions 'orthogonal' in the context of reviewer panels for institutional simulation, not as a method for initializing diverse instructions in latent space for multi-agent discussion systems. The technical approaches and application domains differ fundamentally.

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7. Attention Knows Whom to Trust: Attention-based Trust Management for LLM Multi-Agent Systems

URL: View paper

Brief Assessment

Attention Knows Whom to Trust[51] focuses on trust-based message filtering in multi-agent systems using attention mechanisms, not on diverse orthogonal initialization strategies for expanding solution search spaces.

Contribution 3: Self-adaptive balancing mechanism for context evolution

Description: The authors devise a self-adaptive mechanism that trains context generators to balance context coherence and output discrepancies. This mechanism enables LLMs to avoid premature convergence on majority noise while progressively reaching correct consensus during multi-round discussions.

This contribution was assessed against **10 related papers** from the literature. Papers with potential prior art are analyzed in detail with textual evidence; others receive brief assessments.

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1. Diverseagententropy: Quantifying black-box llm uncertainty through diverse perspectives and multi-agent interaction

URL: View paper

Brief Assessment

Diverseagententropy[74] focuses on uncertainty estimation through multi-agent interaction across diverse query variations, not on balancing context coherence and output discrepancies in multi-agent discussion systems for consensus building.

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2. Exploring and controlling diversity in LLM-agent conversation

URL: View paper

Brief Assessment

Exploring and controlling diversity[67] focuses on controlling diversity in LLM-agent conversations through adaptive prompt pruning based on attention scores, not on multi-agent discussion consensus mechanisms or balancing coherence with output discrepancies in collaborative problem-solving contexts.

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3. LLM-Flock: Decentralized Multi-Robot Flocking via Large Language Models and Influence-Based Consensus

URL: View paper

Brief Assessment

LLM-Flock[73] addresses decentralized multi-robot flocking through influence-based consensus protocols, not multi-agent LLM discussion systems. The candidate focuses on coordinating physical robots in formation control tasks, while the original contribution concerns balancing coherence and discrepancy in multi-round LLM discussions for problem-solving.

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4. Conformity, confabulation, and impersonation: Persona inconstancy in multi-agent llm collaboration

URL: View paper

Brief Assessment

Conformity confabulation and impersonation[72] focuses on persona inconstancy and conformity behaviors in multi-agent LLM systems during cultural debates, not on balancing coherence and discrepancy in consensus mechanisms for general problem-solving tasks.

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5. The hidden strength of disagreement: Unraveling the consensus-diversity tradeoff in adaptive multi-agent systems

URL: View paper

Brief Assessment

The hidden strength of[68] focuses on consensus-diversity tradeoffs in multi-agent systems through implicit vs. explicit coordination mechanisms, not on training context generators to balance coherence and discrepancies in multi-round LLM discussions.

---

6. From Divergence to Consensus: Evaluating the Role of Large Language Models in Facilitating Agreement through Adaptive Strategies

URL: View paper

Brief Assessment

From Divergence to Consensus[70] focuses on LLM-facilitated consensus building in multi-user discussions using adaptive strategies like clarifying misunderstandings and proposing compromises, not on training context generators to balance coherence and discrepancy in multi-agent LLM systems.

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7. MATEval: a multi-agent discussion framework for advancing open-ended text evaluation

URL: View paper

Brief Assessment

MATEval[71] focuses on multi-agent text evaluation using feedback mechanisms to guide discussion consensus, not on balancing context coherence and output discrepancies in multi-round LLM discussions for problem-solving tasks.

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8. Achieving Unanimous Consensus in Decision Making Using Multi-Agents

URL: View paper

Brief Assessment

Achieving Unanimous Consensus in[69] focuses on multi-agent deliberation for blockchain consensus using LLMs, not on context learning mechanisms that balance coherence and discrepancy in multi-agent LLM discussions for problem-solving tasks.

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9. Enhancing answer reliability through inter-model consensus of large language models

URL: View paper

Brief Assessment

Enhancing answer reliability through[66] focuses on inter-model consensus among multiple LLMs answering statistical questions, not on context evolution mechanisms for multi-agent discussion. The candidate addresses answer validation through majority voting and agreement metrics, while the original contribution concerns dynamic context generation to balance coherence and discrepancy during multi-round LLM discussions.

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10. LLM-Consensus: Multi-Agent Debate for Visual Misinformation Detection

URL: View paper

Brief Assessment

LLM-Consensus[75] focuses on multi-agent debate for visual misinformation detection, not on training context generators to balance coherence and discrepancy in multi-round discussions for general problem-solving tasks.

Appendix: Text Similarity Detection

No high-similarity text segments were detected across any compared papers.

References

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- [1] War and peace (waragent): Large language model-based multi-agent simulation of world wars View paper
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