



NLP @ Lamarr

Akbar Karimi

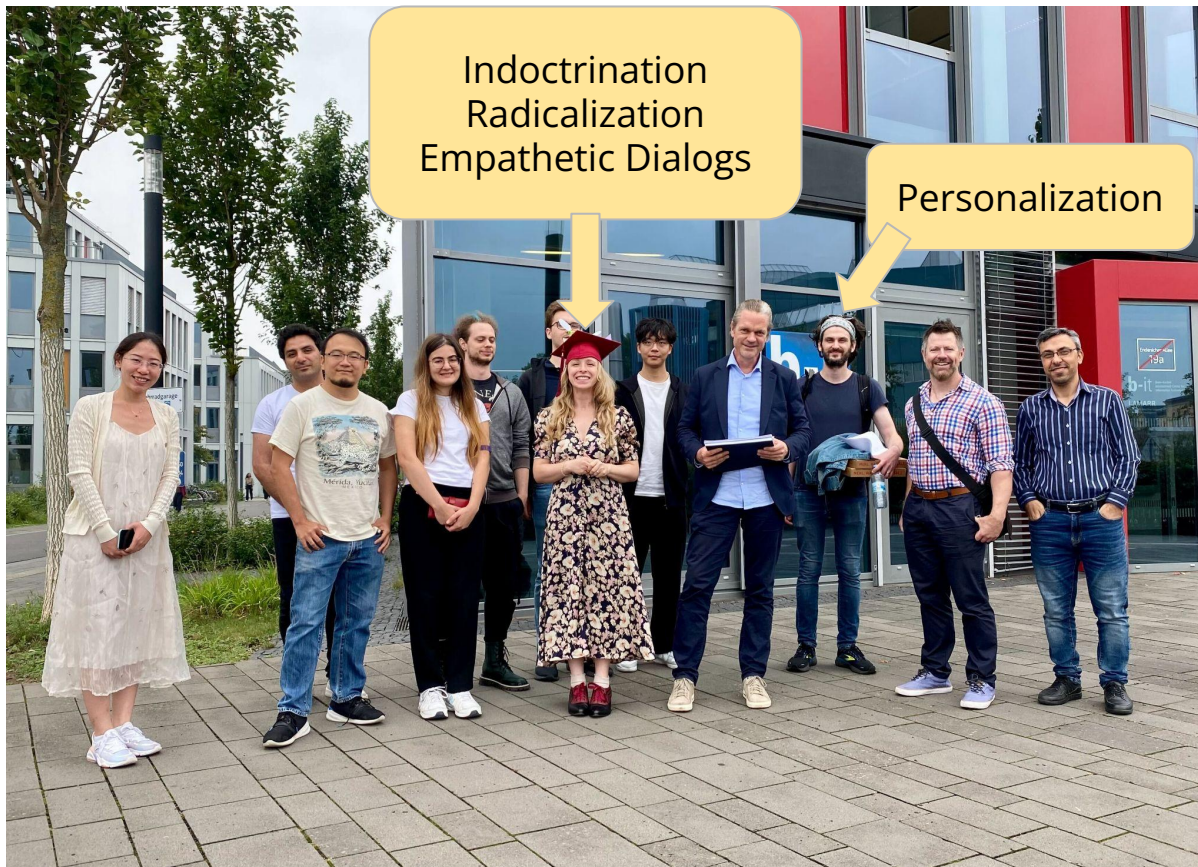
February 2025



NLP Area Chair

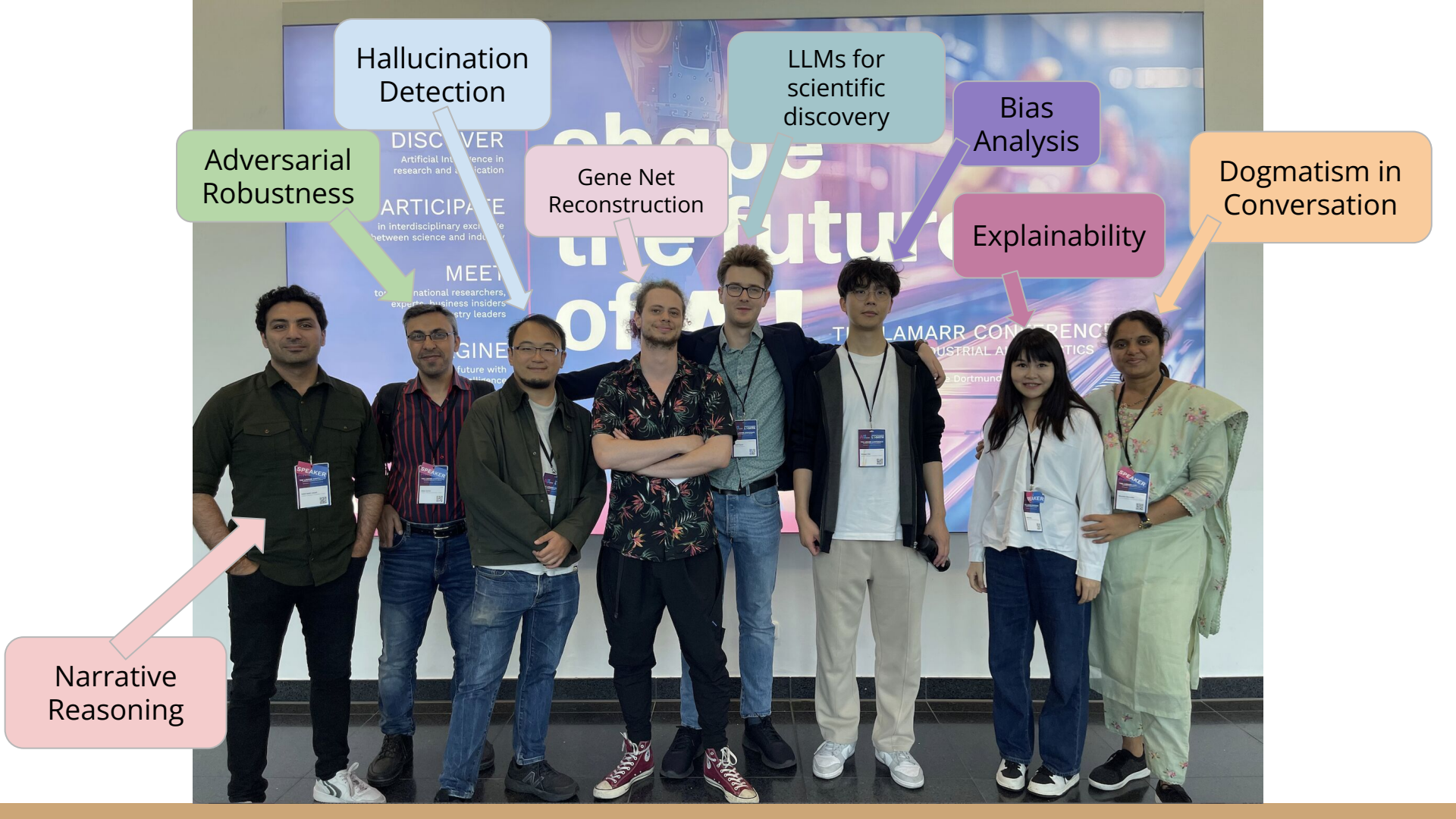
Knowledge graphs
Perspective taking
User modeling





Indoctrination
Radicalization
Empathetic Dialogs

Personalization



Hallucination Detection

LLMs for scientific discovery

Bias Analysis

Dogmatism in Conversation

Adversarial Robustness

Gene Net Reconstruction

Explainability

Narrative Reasoning

change the future of AI

DISCOVER Artificial Intelligence in research and application

PARTICIPATE in interdisciplinary exchange between science and industry

MEET top international researchers, experts, business insiders, industry leaders

THE AMARR CONFERENCE INDUSTRIAL AI & MATHEMATICS

Dortmund

Health
Misinformation



Theory of
Mind
Robustness

Knowledge
Augmented
LLMs for QA

Health
Misinformation

Theory of
Mind
Robustness



Knowledge
Augmented
LLMs for QA

AI Safety
High Energy
Physics

Planning
Alignment

Propaganda
Detection



Intro & Collaboration Pitches (14-14:30)



Intro & Collaboration Pitches



Who Am I?

What is my
research problem?



What/Who could
help me?



Intro & Collab



Who

- *Name*
- *Email address*
- *Problem*
- *Solution*

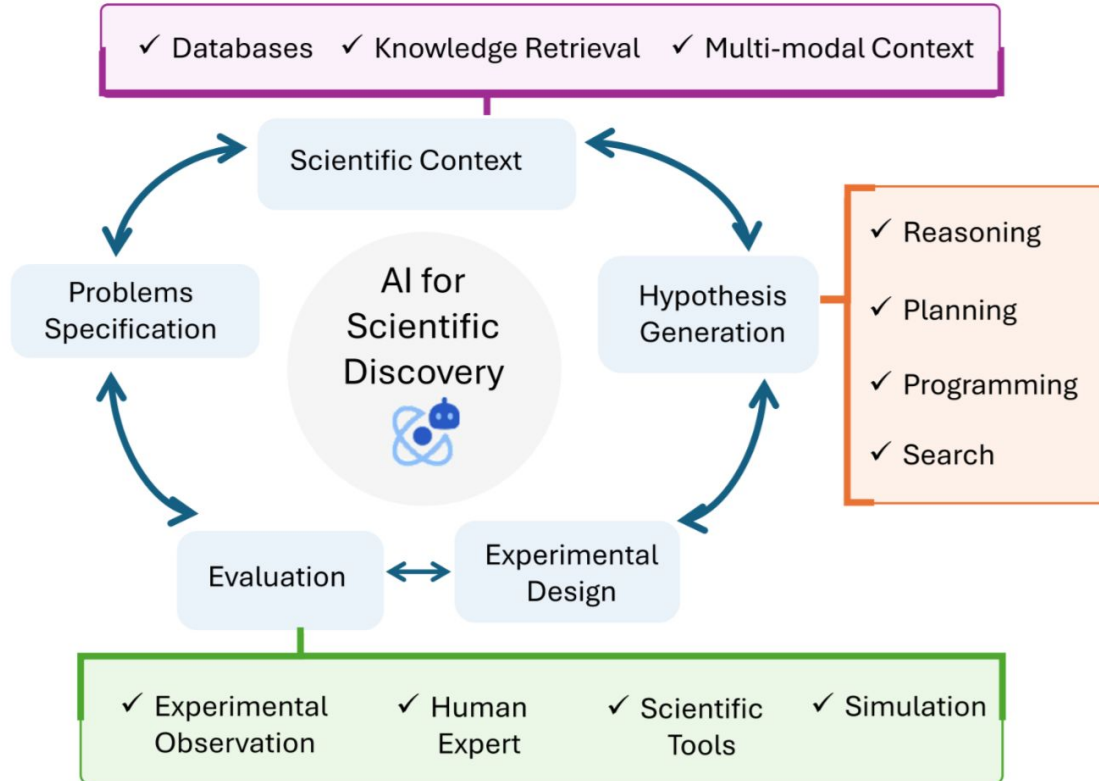
What/Who could help me?



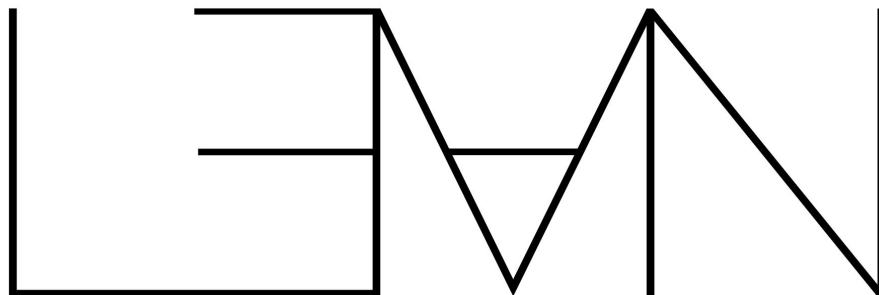
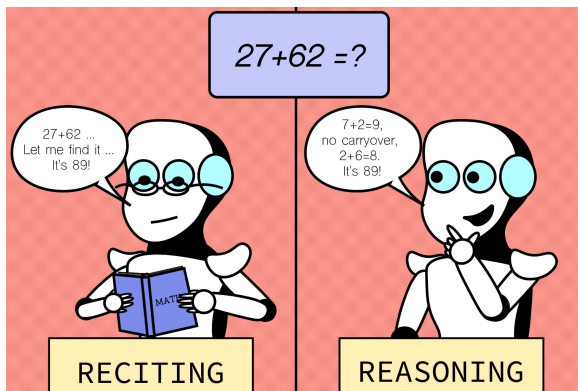
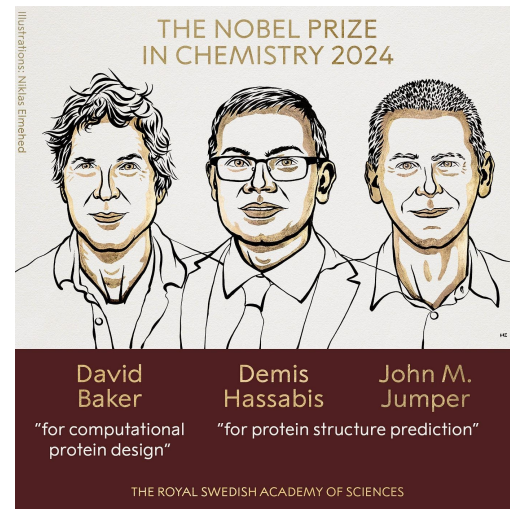
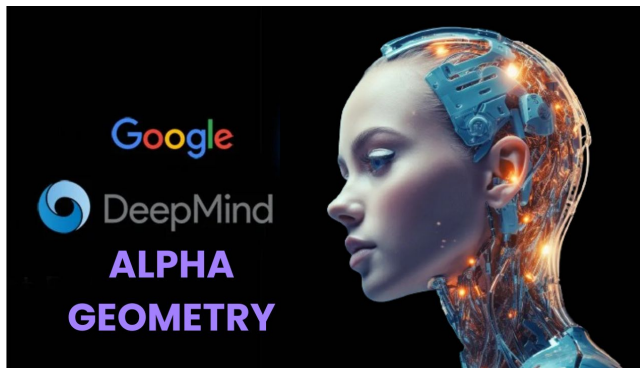
What is my research problem?



BoF: LLMs for Scientific Discovery (14:30 - 15)



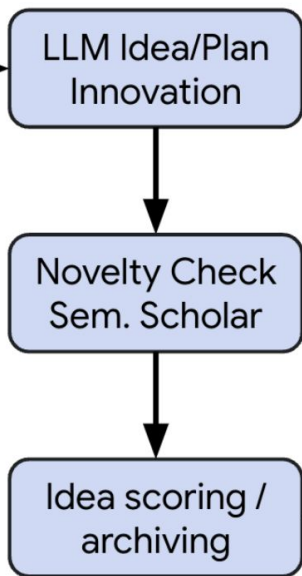
BoF: LLMs for Scientific Discovery



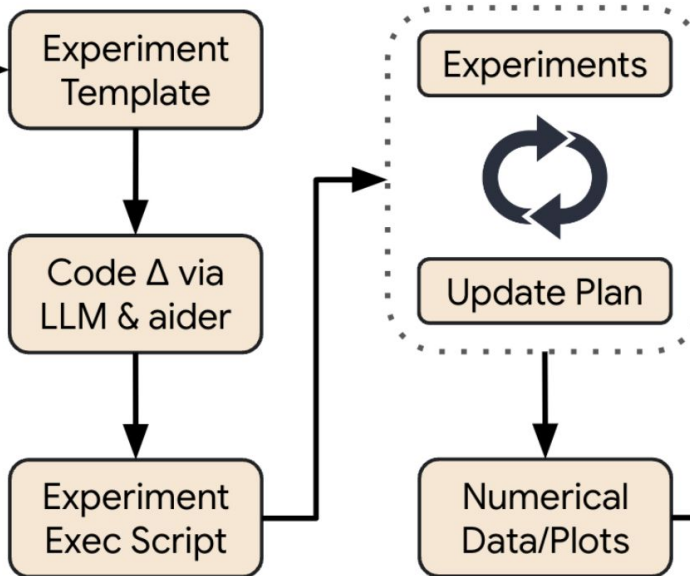
The AI Scientist



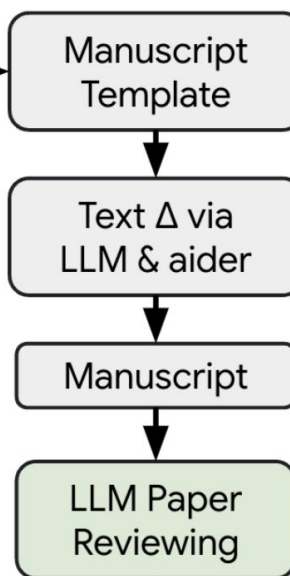
Idea Generation



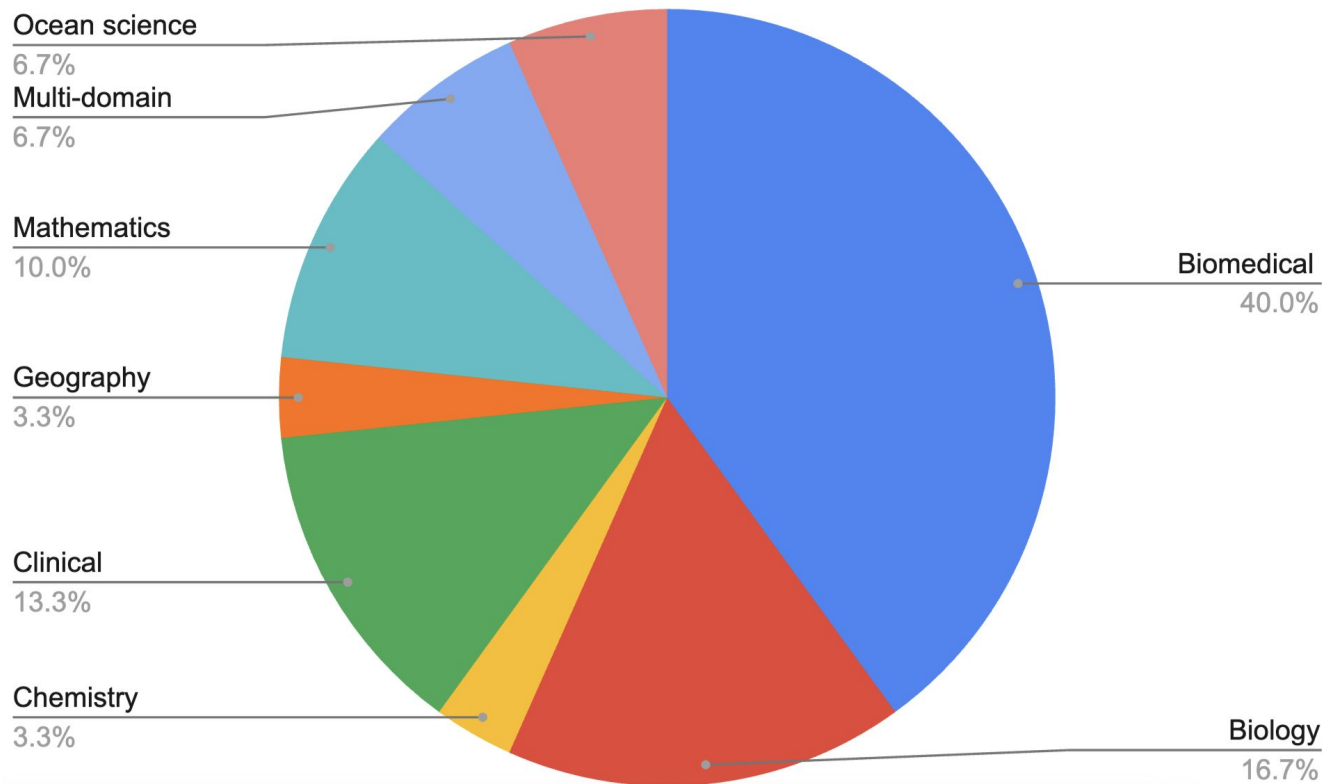
Experiment Iteration



Paper Write-Up

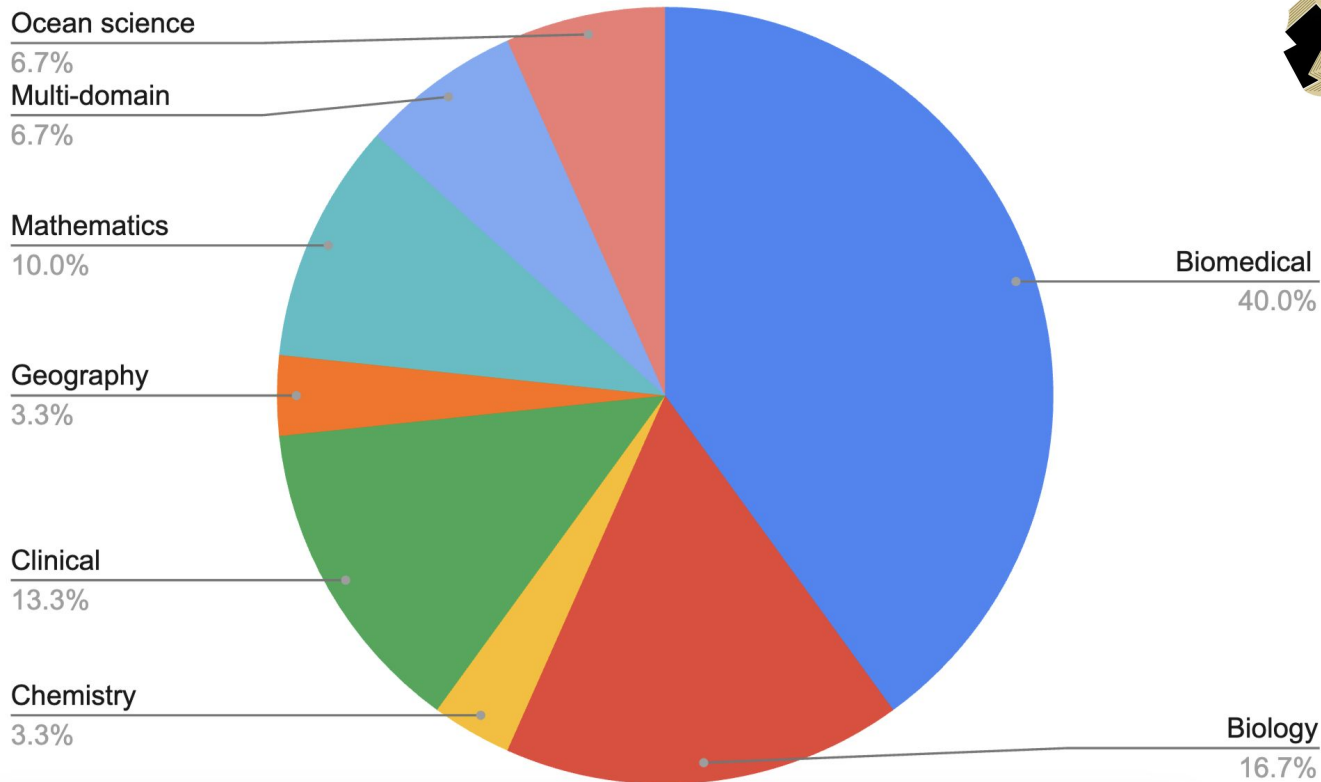


LLMs for Scientific Text



LLMs for Scientific Text

Missing domains?



LLMs in Science: Challenges

Are scientific insights enhanced by AI reliable and trustworthy?

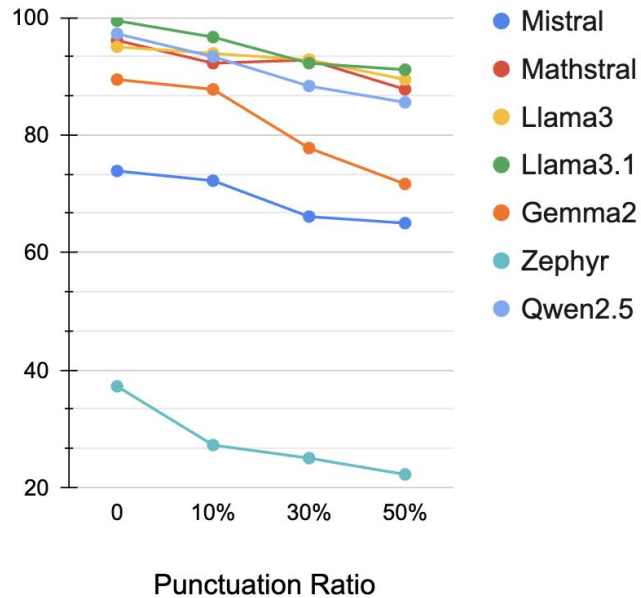
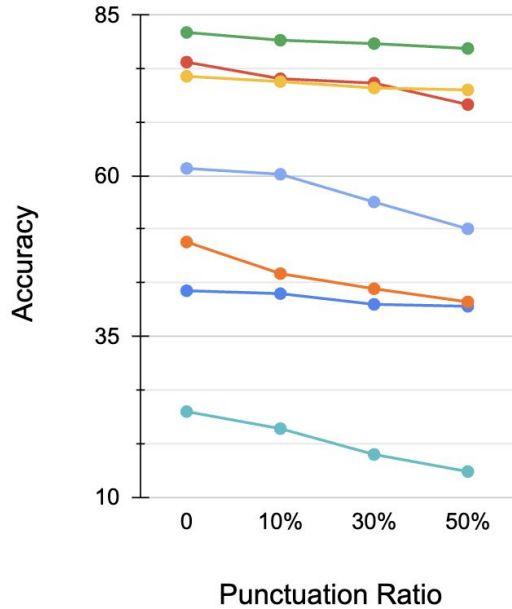
***Personalized?
E.g. brain signals for same text***

Biased?

Interpretable?

Are they robust?

LLMs in Science: Challenges



***Are they
robust?***

LLMs in Science: Challenges

Research questions and priorities

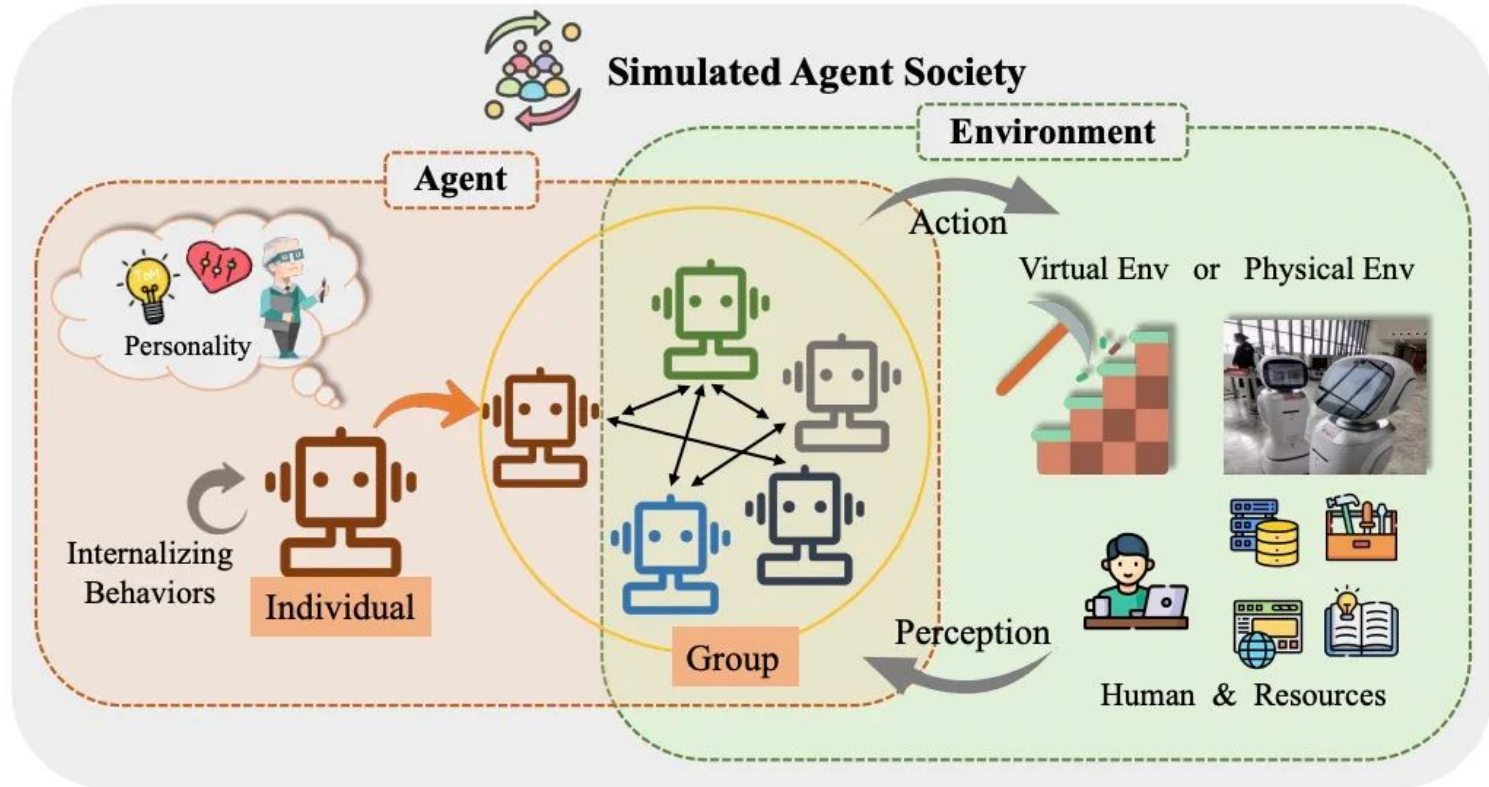
Idea Pitches

Use cases of LLMs in scientific discovery

LLMs in physics, biomedicine and beyond

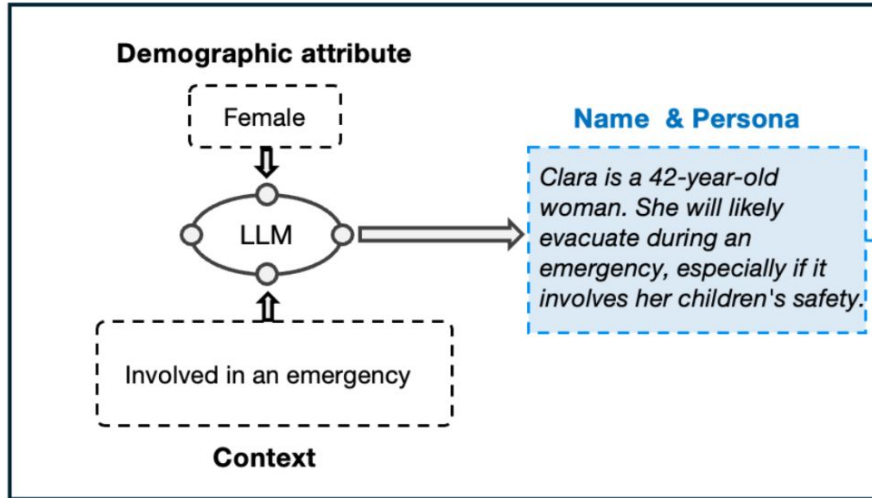
Types of applications that LLMs and LLM agents can solve

Roundtable on Social Agents (15 - 15:30)

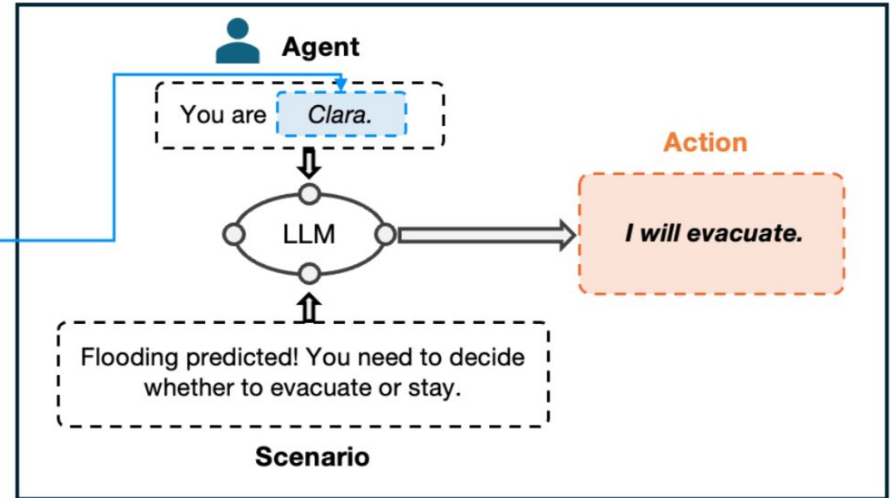


Roundtable on Social Agents

Step 1. Persona Generation



Step 2. Action Generation



Roundtable on Social Agents

LLMs and the Theory of Mind

What are the research questions you are interested in that can be modeled with LLM social agents?

What are the benefits and risks of such modeling?

How should we prioritize the research questions?

Lamarr Dagstuhl 2026 on Socially Intelligent AI Systems

LLM Research in Academia and Industry (15:30 - 16)



What are the common goals / how to collaborate while keeping out KPIs?

Looking into the Future (16 - 16:30)



AGI?

Superalignment

AI safety

Future of LLMs

and Beyond!



Superalignment?

Is AGI a distraction from current dangers of AI?