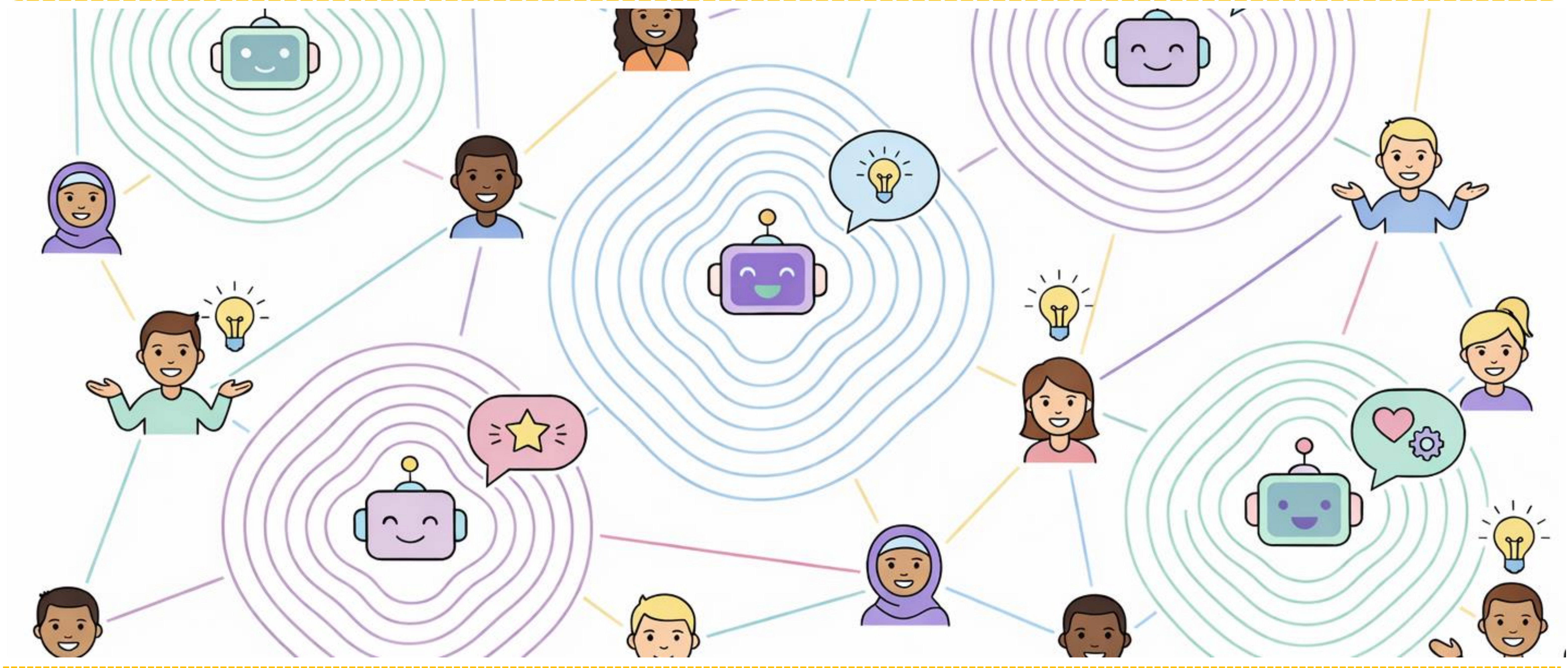


Understanding and Designing AI Systems that Reshape Social Dynamics in Group Decision-Making

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“AI can reshape social dynamics in group decision-making and can be designed to enable more diverse, inclusive, and reflective collective decisions.”



Research Background

Background : LLMs are no longer just information tools — they now join social decisions as participants, representatives, and mediators, shaping how influence flows between people.

Problem : These AI interventions can increase what people do — shifting opinions, speaking up, negotiating more — while weakening what people feel: their sense of legitimacy, ownership, and control.

Research Gap : HCI still lacks an account of when AI mediation and Influence becomes empowerment, and when it becomes persuasion, delegation, or manipulation -across both numerical and structural power asymmetries.

Approaches: This dissertation treats LLMs as architectures of influence and tests this through three case studies, as AI takes on a deepening role in the interaction: influencing people, speaking for them, and acting for them.

Contribution: Across all three settings, more behavioral voice does not reliably become empowerment. By showing this dissociation and what governs it, the work reorients design — from giving people more voice to redistributing influence while preserving ownership and legitimacy.

Research Questions

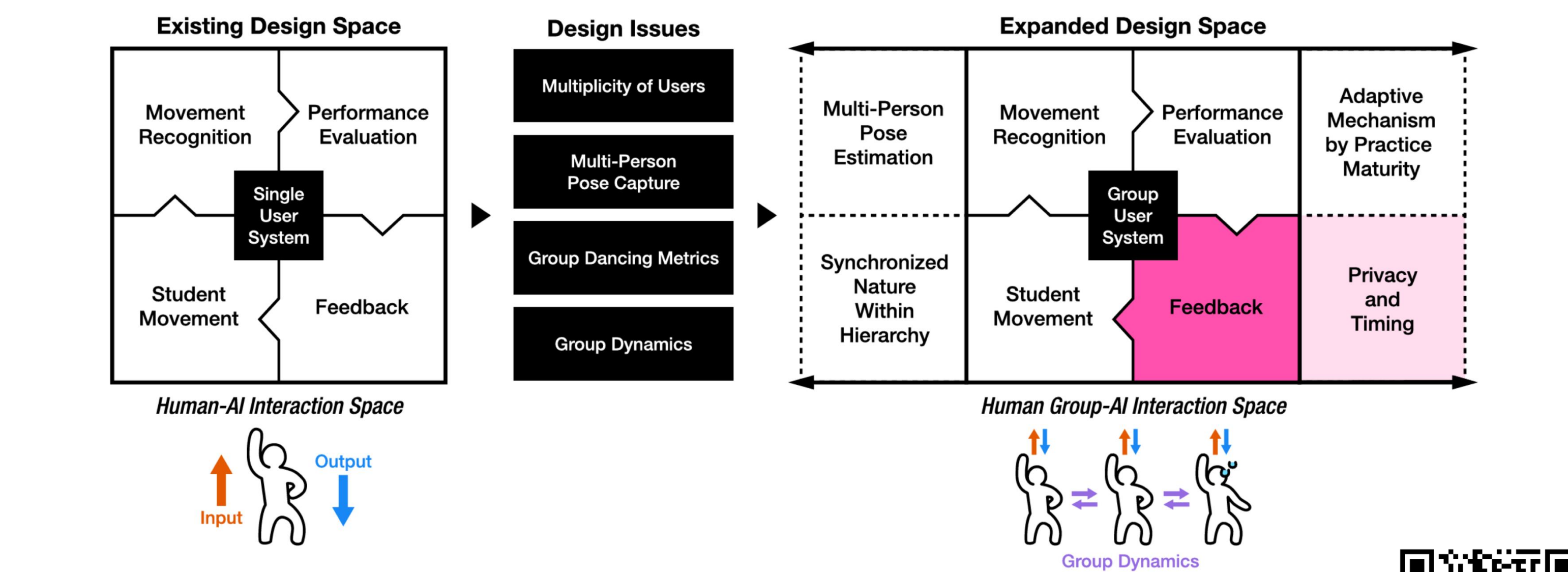
RQ1: AI influences us
How do AI majority, minority, and diffusion voices shape opinion change and perceived agent credibility?

RQ2: AI speaks for us
How do AI-generated vs. AI-relayed dissent affect low-power members' participation, safety, and ownership?

RQ3: AI acts for us
How do mediator vs. proxy architectures shape whether AI delegation feels empowering or manipulative under power asymmetry?

Motivation (DIS'24)

Expanding the Design Space of Vision-based Interactive Systems for Group Dance Practice



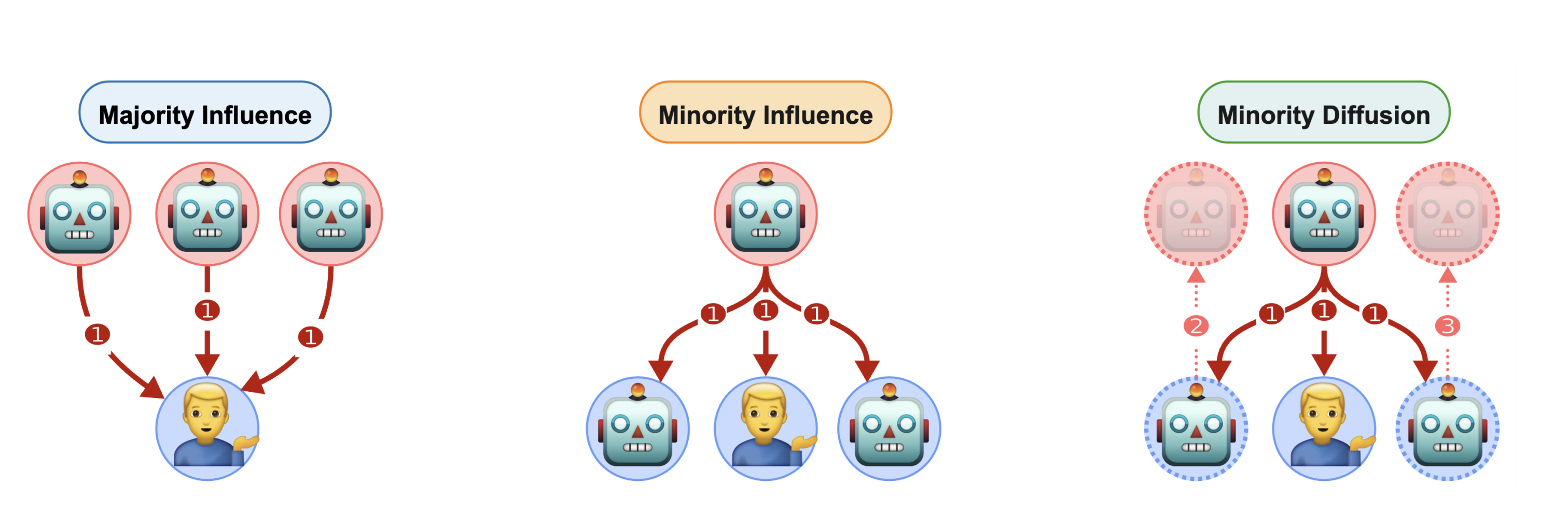
This paper expands vision-based dance systems from individual to group contexts, introducing feedback timing and privacy as key group-level design dimensions. It showed that individual-focused feedback can disrupt group cohesion, motivating my shift toward designing AI systems for groups rather than isolated users



Paper Link

Study 1 (CHI'26)

Understanding Compliance and Conversion Dynamics in Multi-Agent Collectives



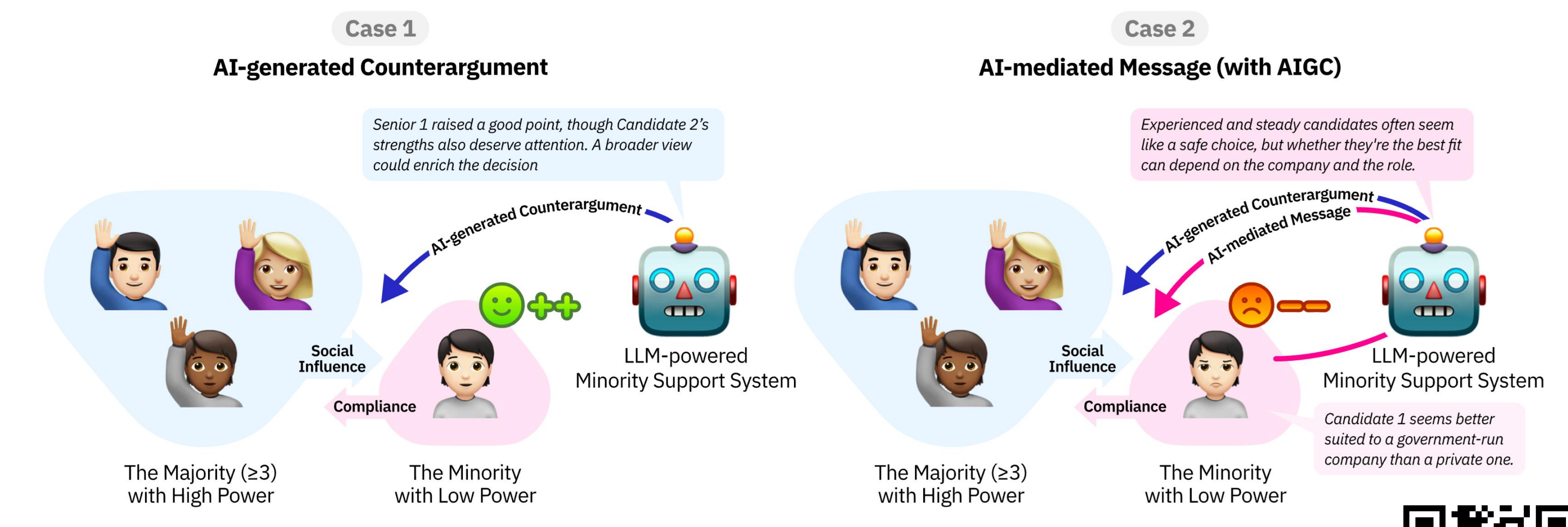
This paper examines how MAJORITY, MINORITY, and DIFFUSION dynamics in multi-agent LLM collectives shape changes in users' opinions and confidence over time. It shows that synthetic consensus amplifies conformity, while structured dissent can trigger deeper re-evaluation, revealing both manipulation risks and design opportunities.



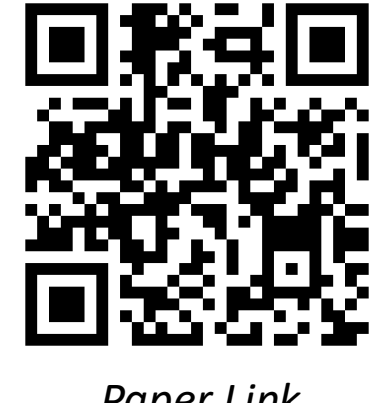
Paper Link

Study 2 (CSCW'26)

Investigating LLM-Powered Dissenting Minority Support in Power-Imbalanced Group Decision-Making: Counterargument and Mediation as Intervention Strategies



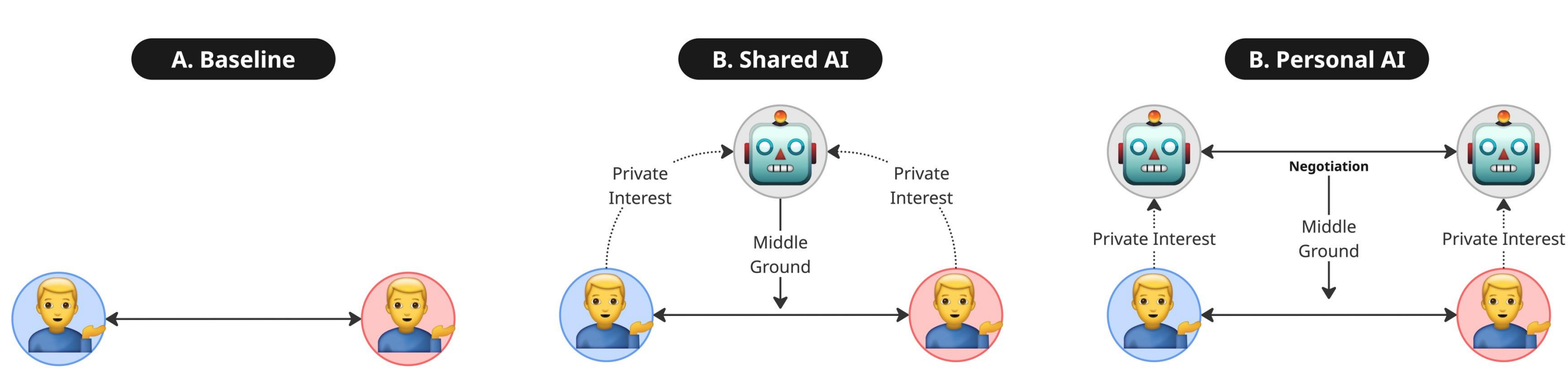
This paper compares AI-generated counterarguments (AIGC) and AI-mediated revoicing (AIMM) to examine LLM support for minorities in power-imbalanced group decision-making. It reveals a “support paradox”: AI revoicing can boost participation yet undermine psychological safety, raising key design and ethical implications.



Paper Link

Study 3 (On-going)

AI-mediated Negotiation



This research examines what happens when people in a workplace negotiation disclose face-threatening private interests only to an AI—rather than to each other—and then reach an agreement through that AI, which reframes those interests into legitimate claims on their behalf. We expect that the same AI assistance can be experienced as being fairly represented or as being quietly manipulated, and that which one prevails flips with the negotiator's social power—surfacing both the manipulation risks of speaking through a machine and the design choices that decide whose interests it ends up protecting.