The road forward with swarm systems

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About this issue

Swarm systems include biological ones such as flocking of birds and schooling of fish, and artificial ones such as swarm of unmanned aerial vehicles. Biological swarms have fascinated scientists for centuries. While the history of artificial swarms is decades long, only recently we started to see artificial swarms moving out of research laboratories to the real-world. As swarm systems cross to the real worlds, we are curios to glimpse over the work done by thought-leaders in swarm systems. Their work is presented using three lenses: a fundamental lens shedding light reactive and rational swarms; a control lens highlighting guidance and control strategies for a swarm; a social integration lens presenting unpacking opportunities and challenges in human-swarm teaming and ethics.

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Cover image: A lens on a future where humans and artificial swarms of robots live together. Credit: Copilot prompted by Hussein A. Abbass.

Contents