Abstract:

Swarm robotics in human-computer interaction based on human poses.
Asynchronous controller kernel for drone manipulation.
Collision avoidance integration for technological platform.
Object detection from cameras.

Introduction:

Swarm robotics relevance in HCI.
Geometric swarm control and natural swarm robotics insights.
Project objective: Human pose-based swarm robotics system.

Related Works:

Extensive SOTA review in swarm robotics.
Exploration of geometric swarm control methodologies.
Analysis of natural swarm robotics in animals, birds, bees, ants.

Overview Methodology:

Asynchronous controller kernel development.
Integration of collision avoidance mechanisms.
Object detection from cameras.
Challenges, solutions, and lessons learned.
Interdisciplinary collaboration insights.

Results:

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Asynchronous controller kernel outcomes.
Effectiveness of collision avoidance.
Object detection results.
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Discussion:

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Results interpretation and analysis.
System comparison with existing technologies.
    - MIT Forest swarm exploration and swarm
        Compare the Controll capabilities in a closed space
    - Speaking Swarmish: Human-Robot Interface Design for Large Swarms
        of Autonomous Mobile Robots
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Implications and potential applications.
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Conclusion:

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Summary of findings and contributions.
Reflection on significance.
Future research directions.
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References:

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Comprehensive academic and research source list.
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