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ABSTRACT The development of Artificial Intelligence (AI) has seen tremendous progress in the past few decades. AI has found applications in various domains such as computer vision, natural language processing, robotics, and more. However, with the increasing power of AI, it becomes imperative to ensure that the algorithms developed possess a certain level of ethical and moral values. In this research, we explored the possibility of building conscious AI for human-robot interaction. The goal is to develop AI algorithms that can learn compassion and ethical values, leading to more conscious and responsible actions.
The research focuses on two key components of conscious AI, empathy, and imitation. Empathy enables the AI to understand and respond to human emotions, while imitation enables it to learn from human behavior. The research employs a combination of imitation learning and reinforcement learning to develop AI algorithms. The developed algorithms were tested in various scenarios, and the results demonstrate the effectiveness of the proposed approach in building conscious AI. The proposed approach, based on empathy and imitation, shows promising results in developing AI algorithms that can respond to human emotions and learn from human behavior. The research highlights the importance of incorporating ethical and moral values into AI algorithms, and paves the way for future research

KEYWORDS Human-robot interaction, Empathy, Imitation, Reinforcement Learning, Ethics

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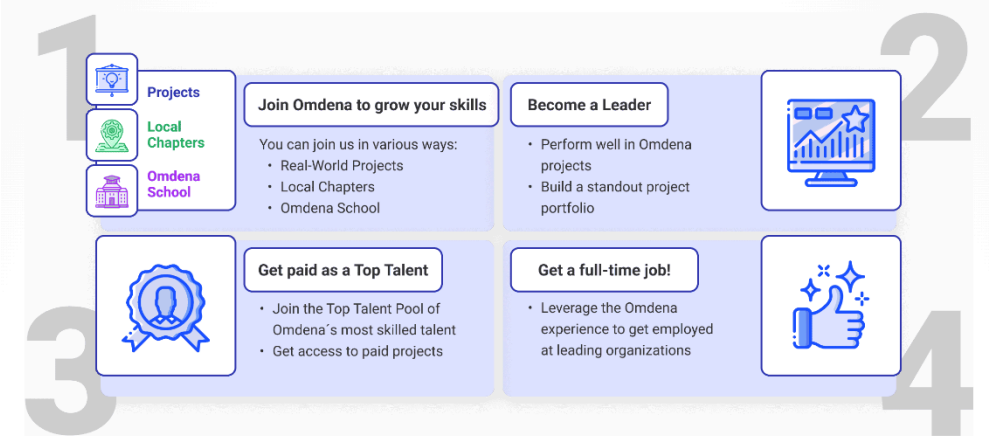
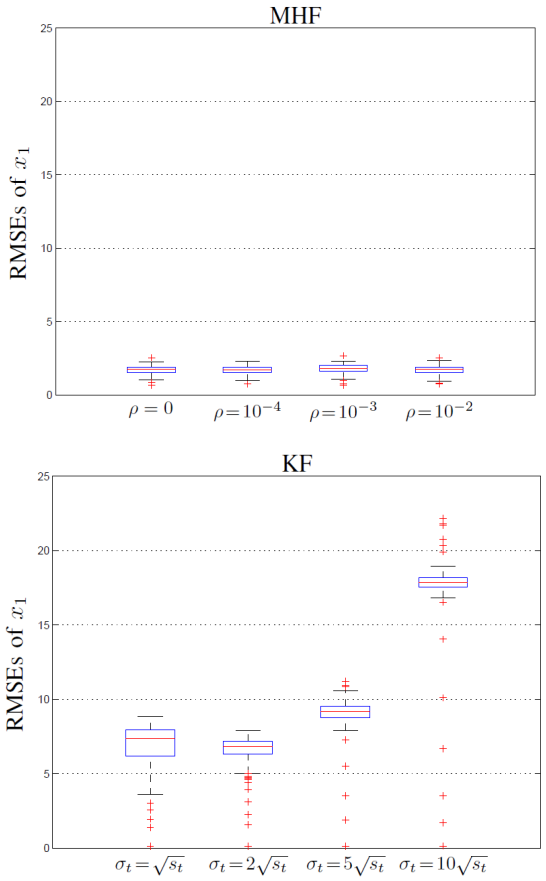


Figure 1: Omdena Model.



(a) (b)

Figure 2: RMSE over 100 simulation run for (a) x_1 with MHF with N =3, (b) x_1 with KF and different σ.

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$$y_t = Cx_t + v_t \tag{2}$$

Where t = 0, 1, ... is the time constant, $x_{t+1} \in R^n$ *is the state vector*. Be sure that the symbols in your equation have been defined before the equation appears or immediately in the following text. Use one space line between the text and equation (before and after). When referring to an equation, use "Eq. (1)" except at the beginning of a sentence: "Equation (1)"

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CONCLUSION

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APPENDIX

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ACKNOWLEDGEMENT

In the Acknowledgment section, it is recommended to thank sponsors, financial supporters, and people other than the authors who contributed to the underlying research.

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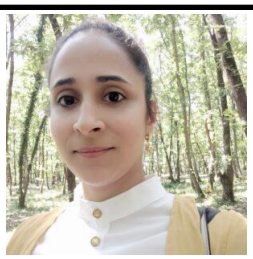 **Rasha G. Salim**	**RASHA G. SALIM**, received B.S. degree in computer science from …….. in …. And M.S degree in ….. . She is currently Senior AI Project Lead with Omdena Inc. She is a member of …. and … Her research interest include data mining, artificial intelligence, …. Ms. Rasha can be contacted via rasha@…..
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