

# Shikha Singh

Dept. of Computer Science & Engineering, IIT Madras

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## EDUCATION

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- **Indian Institute of Technology Madras** Chennai, India  
*Ph.D. in Computer Science; CGPA: 8.8* July. 2016 – till date
- **Visvesvaraya National Institute Of Technology** Nagpur, India  
*Master of Technology in Computer Science; CGPA: 9.38* July. 2014 – May. 2016
- **Feroze Gandhi Institute of Engg. & Technology** Raibareilli, India  
*Bachelor of Technology in Computer Science & Engineering; 81.18 % (4059/5000)* Aug. 2010 – June. 2014
- **Air Force School** Gorakhpur, India  
*Senior School Certificate Examination (CBSE); 89.2 % (446/500)* May. 2009
- **Air Force School** Gorakhpur, India  
*Senior School Examination (CBSE); 94.2 % (471/500)* May. 2007

## PHD THESIS

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- **Deception in a Multi-agent Epistemic Planning Setting:** My research focuses on Epistemic logic based Knowledge Representation and Reasoning techniques towards designing (social) artificial agents which may share a common or conflicting goal with other agents in a multi-agent scenario. An agent needs to communicate with other autonomous agents to influence their beliefs, their goals and hence, their actions. We look at the role of deception in such a scenario, where an agent may lie to other agents to try and alter their beliefs so that they are inclined to act in a manner beneficial to the lying agent.

## MTECH FINAL YEAR THESIS

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- **Optical Character Recognition using Generalized Representation of Geometric Boundaries of Characters for Multilingual Document Indexing:** Worked on providing an automated solution for indexing of multilingual text from the scanned Indian documents having English, Devanagari, and Marathi scripts by designing a robust *Optical character recognition* system.

## BTECH FINAL YEAR THESIS

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- **Analysis of Performance of Biometric System Based on Human Emotions:** The goal of this project was to study the state of the art Emotion Recognition Systems built using extracted features from the static facial image of people and the applicability of such systems towards building robust Biometric systems.

## EXPERIENCE

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- **Indian Institute of Technology Madras**  
*Teaching Asst.: Artificial Intelligence, Knowledge Representation & Reasoning, Computational Engineering* July 2016 - May 2020
- **Indian Institute of Technology Mandi**  
*Teaching Asst.: Paradigms of Programming, Constraint Satisfaction Problems, Artificial Intelligence* May 2017 - Dec 2018
- **Indian Institute of Technology Dharwad**  
*Teaching Asst.: Artificial Intelligence* Jan 2019 - May 2019
- **National Programme for Technology Enhanced Learning**  
*Teaching Asst.: The courses offered by Prof. Deepak Khemani, IITM* July 2017 - Dec 2019
- **The Second Summer School on Representation in Artificial Intelligence (RinAI-2019)**  
*Organizing team* June 6-13, 2019
- **The IIT Mandi Summer School on Representation in Artificial Intelligence (RinAI-2017)**  
*Local organizing team* July 19-28, 2017

## PUBLICATIONS

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1. Singh, S., and Khemani, D. (2019). Planning to deceive in a multi-agent scenario. In M. T. Cox (Ed.), Proceedings of the Seventh Annual Conference on Advances in Cognitive Systems (pp. 473-491). Tech. Rep. No. COLAB2-TR-4. Dayton, OH: Wright State University, Collaboration and Cognition Laboratory.
2. Singh, S. and Khemani, D. (2019). Deception: An Epistemic Planned Event? Extended Abstract in Logic and Cognition Workshop, Eighth Indian Conference on Logic and Its Applications. Delhi, India.
3. Khemani, D. and Singh, S. (2018). Contract Bridge: Multi-agent Adversarial Planning in an Uncertain Environment. Poster Collection of the Sixth Annual Conference on Advances in Cognitive Systems (pp. 161180). Stanford, CA: ACS.