

Santhosh Kumar Guguloth

Ph.D, Prime Minister's Research Fellow
Department of Computer Science and Engineering
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Interests

Reinforcement Learning, Game Theory, and AI/ML

Education

- 2019-Present **Ph.D**, *Computer Science and Engineering, IIT Bombay, Mumbai, 8.71 CPI.*
Supervisor: **Prof. Shivaram Kalyanakrishnan, CSE, IITB, Mumbai.**
- 2017-2019 **MTech**, *Computer Science and Automation, Indian Institute of Science, Bangalore, 7.1 CGPA.*
Thesis Advisor: **Prof. Jayant R Haritsa, Database Systems Lab, IISc, Bengaluru**
- 2011-2014 **B.E.**, *Computer Science and Engineering, Osmania University, Hyderabad, 67.85 %.*

Publications/ Patents

- Patent 2024 **An Intelligent Simulation-based Agent for Card Games**, *Santhosh Kumar Guguloth and Shivaram Kalyanakrishnan*, Indian Patent, Patent number 554181, granted 12 November 2024.
- To appear in AAMAS 2025 **A View of the Certainty-Equivalence Method for PAC RL as an Application of the Trajectory Tree Method**, *Shivaram Kalyanakrishnan, Sheel Shah, Santhosh Kumar Guguloth.*

Research Projects

- Jul-Dec 2019 **Reward shaping in Markov Decision Process**, *CS 747 Foundations of Intelligent and Learning Agents course project*, Advisor: Prof. Shivaram Kalyanakrishnan, IIT Bombay.
- Jul-Dec 2019 **Power of Curriculum Learning in Training Deep Networks**, *CS 725 Foundations of Machine Learning course project*, Advisor: Prof. Sunita Sarawagi, IIT Bombay.
- May 2018-Jul 2019 **Predicting Robustness of SQL Query Plan using Deep Learning Techniques**, *MTech Project*, Advisor: Prof. Jayant R Haritsa, Database Systems Lab, IISc.
- Aug-Dec 2018 **Adversarial Learning for Neural Dialogue Generation (Chatbot)**, *E0 334 Deep Learning for NLP Course Project*, Advisor: Prof. Shirish K Shevde, IISc.
- Jan-Apr 2018 **Playing Atari 2600 Games with Deep Reinforcement Learning**, *E1 277 Reinforcement Learning Course Project*, Advisor: **Prof. Shalab Bhatnagar**, IISc.
- Jan-Apr 2018 **Analysing Deep NN with Information Bottleneck Theory**, *E0 270 Machine Learning Course Project*, Advisors: Prof. Chiranjeev Bhattacharya and Prof. Ambedkar Dukkipati, IISc.
- Jan-Apr 2018 **Implementation of PintOS**, *E0253 Course Project*, Advisor: Prof. Vinod Ganapathy, IISc.

Teaching/ Teaching Assistant

- Autumn 20, 21, 22 **CS 747: Foundations of Intelligent and Learning Agents**, *Teaching Assistant*, IIT Bombay.
- Spring 21, 22, 23 **CS 748: Advances in Intelligent and Learning Agents**, *Teaching Assistant*, IIT Bombay.
- 2022- 2023 **C and C++ Programming**, *Sri Chaitanya Gowthami Degree College, Bhadradi, Telangana.*
- Autumn 2021 **Artificial Intelligence and Machine Learning**, *Govt. Polytechnic, Masabtank, Telangana, .*

Courses at IITB

AM/ML Foundations of Intelligent and Learning Agents, Advances in Learning and Intelligent Agents, Game Theory and Economic Analysis, Linear Algebra, Probability and Random Processes, Foundations of Machine Learning, Advanced Machine Learning,

Work Experience

- 2015-2017 **Defence Electronics Research Laboratory, DRDO, Ministry of Defence, Hyderabad.**
- 2014-2015 **Computer Teacher**, *Sri Triveni Techno High School, Hyderabad, .*

Other activities

- Feb 2023 **Silver Medal, Inter IIT Tech Meet 11.0**, Team lead for the team size of 10 members
- 2022-2023 **Coordinator**, *PhDs Monthly Meet*, Dept. of Computer Science and Engineering, IIT Bombay.