RIJUL TANDON
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OBJECTIVE

Researcher with dual bachelor's degrees and experience in reinforcement learning , inverse reinforcement learning and imitation learning focusing on edge computing, and optimization. Published/Submitted multiple papers in A* and Q1 conferences/journals.

EDUCATION

UIET, Panjab University, Chandigarh — May 2022 - May 2026
Bachelor of Engineering (Computer Science) — CGPA: 8.75/10 (till 6th Sem)

Indian Institute of Technology Madras (Hybrid) — September 2022 - May 2026
Bachelor of Science (Data Science) — CGPA: 7.72/10

RELEVANT COURSEWORK

Statistics, Machine learning, Deep Learning, Probability, Linear Algebra, Calculus, Data Structures and Algorithms, Artificial Intelligence , Python, Algorithm Design

RESEARCH INTEREST

Machine learning, Reinforcement learning, Deep Learning, Optimization

INTERNSHIP EXPERIENCE

Deakin University, Geelong, Australia — November 2025 -Present
Supervisors: Professor Thommen George Karimpanal
Project: Affordances in RL

- Currently exploring Research Directions in Affordances and Intution in RL

Federation University, Ballarat, Australia — July 2025 – October 2025
Supervisors: Professor Peter Vamplew
Project: Optimization of C51 Distributional Reinforcement Learning Algorithm.

- Introduced Softmax based policy updates in C51 for better stability.
- Conducting empirical evaluations of the modified C51 on Gym environments and Atari 10 games.
- Performing ablation studies to asses the impact of tau.

Indian Institute of Technology (IIT), Delhi ,India — January 2025 – September 2025
Supervisors: Prof. Hariprasad Kodamana, Dr. Arjun (PhD Scholar)
Project: Optimizing LP Solvers through imitation and reinforcement learning

- Created custom c++ plugins for extracting SCIP cuts.
- Developed an GAIL based pipeline to infer optimal reward functions from expert SCIP trajectories.
- Integrated reward with a RL agent to optimize the gomory cut selection heurisitc of SCIP.

UIET, Panjab University, Chandigarh, India — August 2024 – January 2025
Supervisors: Prof. Sakshi Kaushal, Dr. Amita Chauhan (PhD Scholar)
Project: Reinforcement Learning for Task Offloading in Mobile Edge Computing (MEC)

- Designed a reinforcement learning environment for MEC using feed-forward neural networks to minimize energy and latency in task execution.
- Implemented and benchmarked DQN and SARSA algorithms for optimal task offloading to UAV-based edge servers.
- Conducted convergence analysis and performance evaluation under dynamic network conditions.

SKILLS

Programming Languages: Python, Java, C++, HTML, CSS, JavaScript, SQL, SQLite, Flask
Machine Learning and AI Frameworks: TensorFlow, PyTorch, Scikit-learn, Gym
Data Analysis and Visualization: Pandas, NumPy, Matplotlib, Seaborn
Web Development: HTML, CSS, JavaScript, Flask
Software and Tools: VS Code, Overleaf, LaTeX, SQLite, Draw IO , Jupyter Notebooks, GitHub

PUBLICATIONS & RESEARCH OUTPUT

Accepted / Published

- Tandon, R., ***RIJUL TANDON***, Kaushal, S., Chauhan, A. (2025). *Energy-delay aware task offloading in MEC using reinforcement learning.* Proceedings of **ICTIS 2025, Thailand**. *(Accepted)*see paper here see certificate here

- Chauhan A. , Tandon R. , Kaushal, S., *LSTMO-MADDPG: A system for intelligent computation offloading in UAV-based MEC for next-generation networks.* https://doi.org/10.1016/j.adhoc.2025.104061 **(Ad Hoc Networks ,Q1)**

Under Review

- *Naithi P , Tandon R , Akashdeep, Kaushal S, A stacked point transformer based PPO optimization for autonomous UAV navigation . Under review* at **International Journal of Intelligent Robotics and Applications** . *see paper here*

- Arjun M , Tandon R Gupta A , Kodamana H , Ramteke M , *MIRACLE: Model-based Imitation and Reinforcement Learning for Adaptive Cut-Selection Under review at* ***ICLR 2026*** *see open review here*

- *Tandon R , Vamplew P , Foale C , ES-C51: Expected SARSA Based C51 Distributional Reinforcement Learning Algorithm Under Review* ***at Neural Networks*** ***https://doi.org/10.48550/arXiv.2510.15006***

ACADEMIC PROJECTS

Bachelor's Thesis

Thesis: Neurosymbolic RL

- Implemented NS-PPO for UAV Navigation .
- Conducted comparison with Vanilla PPO and other baseline approaches.
- Showed effective integration of symbolic rules and their alternatives.

Indian Institute of Technology (IIT), Madras – Host

Project: System Threat Forecaster (Kaggle Competition) **see project here**

- Participated in a Kaggle competition focused on predicting cybersecurity threats using real-world system log data.
- Built end-to-end machine learning pipelines incorporating data cleaning, feature engineering, dimensionality reduction, and model tuning.
- Applied ensemble methods including XGBoost and achieved a leaderboard score of 0.63, earning a perfect evaluation score of 100/100.

IIT Delhi CAG Training Program

Supervisor – Professor Agam Gupta

- Built an end-to-end automated pipeline for tree audit and geospatial analysis, transforming raw forest imagery into interactive annotated maps through DeepForest and QGIS.

- Designed and trained a CNN-based model to distinguish native images from re-captured images (photo-of-photo), improving authenticity verification.

- Fine-tuned DeepSeek to detect and analyze bias in tender bid documents for compliance and transparency.

REFERENCES

Agam Gupta
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