

Arpit Kapoor

PhD Candidate

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[Google Scholar](#)

EDUCATION

University of New South Wales, Sydney — Doctor of Philosophy

AUG 2022 - PRESENT

Bayesian Deep Learning for Spatio-temporal modelling with applications in earth and environmental science

Funded By UNSW Sydney and ARC Training Centre in Data Analytics for Resources and Environment (DARE)

SRM Institute of Science and Technology, Chennai — B.Tech Computer Science and Engineering

JUL 2015 - MAY 2019

CGPA: 9.01

EXPERIENCE

Quince, Hyderabad—Data Scientist

MAR 2022 - AUG 2022

Key Responsibilities:

- Working on data science use cases for improving customer retention by identifying key drivers of repeat behaviour
- Building regressive models for predicting and optimising logistics cost in online retail

3Qi Labs, Hyderabad—Jr Data Scientist

NOV 2019 - NOV 2021

Key Responsibilities:

- Implemented an LSTM Autoencoder based Time-series anomaly detection approach that improved the overall performance by 40% over the previous approach
- Developed ML workflows to automate detection of anomalous data in ETL data pipelines for our clients
- Incorporated MLOps practices to optimize the ML workflow with MLFlow and containerized deployment via Docker

Bomotix, Hyderabad— Machine Learning Developer

JAN 2019 - NOV 2019

Project: **Player Tracking and Pose Estimation in Sports Videos**

Key Responsibilities:

- Developed Deep Learning based Computer Vision models for object detection, object tracking and human pose estimation
- Maintained the CI/CD pipelines for various deep learning model deployment
- Led the Module documentation and requirement gathering effort

PUBLICATIONS

Arpit Kapoor, Anshul Negi, Lucy Marshall, Rohitash Chandra. **Cyclone trajectory and intensity prediction with uncertainty quantification using variational recurrent neural networks** (Ongoing project)

Arpit Kapoor, Eshwar Nukala, and Rohitash Chandra. **Bayesian neuroevolution using distributed swarm optimization and tempered MCMC**. *Applied Soft Computing* (2022): 109528.

Rohitash Chandra, Danial Azam, Arpit Kapoor, and R. Dietmar Müller. **Surrogate-assisted Bayesian inversion for landscape and basin evolution models**. *Geoscientific Model Development* 13, no. 7 (2020): 2959-2979.

Rohitash Chandra, Konark Jain, Arpit Kapoor, and Ashray Aman. **Surrogate-assisted parallel tempering for Bayesian neural learning**. *Engineering Applications of Artificial Intelligence* 94 (2020): 103700.

Rohitash Chandra and Arpit Kapoor. **Bayesian neural multi-source transfer learning**. *Neurocomputing* 378 (2020): 54-64.

Aditya Sripada, Harish Asokan, Abhishek Warriar, Arpit Kapoor, Harshit Gaur, Rahil Patel, and R. Sridhar. **Teleoperation of a humanoid robot with motion imitation and legged locomotion**. In *2018 3rd International Conference on Advanced Robotics and Mechatronics (ICARM)*, pp. 375-379. IEEE, 2018.

Sripada, Aditya, Abhishek Warriar, Arpit Kapoor, Harshit Gaur, and B. Hemalatha. **Dynamic lateral balance of humanoid robots on unstable surfaces**.

The University of Sydney, NSW Australia— *Research Intern (Machine Learning)*

JUN 2018 - AUG 2018

Area of Research: **Bayesian Machine Learning**

Supervisor: Prof Sally Cripps and Dr Rohitash Chandra

Key Responsibilities:

- Developed Bayesian methods for neural networks and geoscientific models using parallel Markov Chain Monte Carlo (MCMC) methods
- Projects worked on: Parallel MCMC methods for Neural Learning, Bayesian Transfer Learning, and Surrogate-assisted parallel MCMC

LEADERSHIP

SRM Team Humanoid, SRM Institute of Science and Technology — *Team Leader*

SEP 2015 - JUN 2019

- Led the University Humanoid Robotics team of 22 members at several international events
- Developed algorithms and software packages for control of humanoid robotic systems in Python and C++ using Robot Operating System.
- Represented the University and won several accolades in various international robotics competitions.

In 2017 *International Conference on Electrical, Electronics, Communication, Computer, and Optimization Techniques (ICEECCOT)*, pp. 1-6. IEEE, 2017.

SKILLS

Programming

Python, R, and C++

Machine Learning Expertise

Bayesian methods - Bayesian Deep Learning, MCMC and Variational Inference

Deep Neural Networks - CNN, LSTM, Autoencoders, Seq2Seq models
Tree-based models - Random Forrest and Gradient Boosting
Deep Reinforcement Learning

Frameworks

Deep Learning - Tensorflow and PyTorch
ML - Scikit-learn, Apache Spark MLlib, MLOps - MLFlow
Model Interpretation- LIME, SHAP

Cloud Technologies

AWS cloud, Azure cloud

Other Skills/Technologies

Docker, Bash

ACHIEVEMENTS

Recipient of **research internship grant** from the **University of Sydney**

In top **1% students** who received University Excellence scholarship during the first year of graduate studies

Secured a **Gold, 2 silver and a bronze** medal in the humanoid league at **RoboGames'17**, held in the **USA**

Secured **3rd position** in IEEE/RSJ IROS 2017 Humanoid Application Challenge, held in Vancouver, Canada.

Recipient of **WATConsult Innovation Award** in BITS ATMOS'16, Hyderabad