

# RAJAT KUMAR

NLP Researcher



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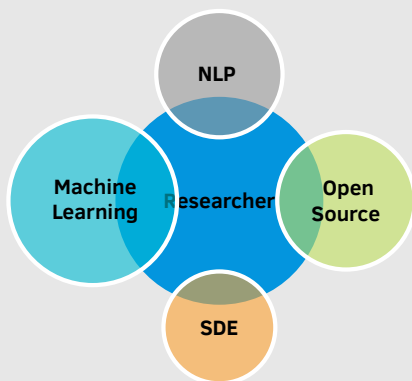
/in/rajat-kumar-543b8a12b



rajat-tech-002

## Technical Skills

### Overview



### Programming

0 LOC —————> 5000 LOC

Python • C • C++

Pytorch • Keras

Java • SQL • CSS • HTML • JavaScript

## Education

**M. Tech, ICT** (CGPA: 8.18)

Specialization: Machine Learning  
Dhirubhai Ambani Institute (DA-IICT)  
2018 - 2020 | Gandhinagar, India

**B. Tech CSE** (CGPA: 7.21)

Gurukul Kangri University  
2013 - 2017 | Haridwar, India

**Intermediate/+2** (Percentage: 94.8%)

**High School** (Percentage: 95%)

Lord Mahavira Academy  
2010 - 2013 | Saharanpur, India

## Experience

Oct 2022 - Present

### Research Associate II - Philips Research

- Exploring and developing a variety of Artificial Intelligence (AI) algorithms for health care applications.
- Interprets and analyses data using exploratory mathematical and statistical methods to identify trends, patterns, and insights from data.
- Collaborate with research engineers at other R&D locations to translate algorithms into commercially viable products and services.

Sep 2020 - Sep 2022

### Researcher - TCS Research and Innovation Labs

- Worked in Natural Language Processing Group (Subgroup of Deep Learning and AI Group)
- Worked on real life industry problems that deal with conversational agents.
- End term goal was to create a Proof of Concept (in terms of a patent or a white paper) for further integration.

May 2019 - Jul 2019

### Summer Research Intern - IIT Gandhinagar

- Guide: Dr. Nipun Batra (Assistant Professor at IIT-GN)
- Worked on project NILMTK (Non-Intrusive Load Monitoring Toolkit), an open source toolkit on GitHub which focuses on providing a better interface for energy disaggregation problems.
- Tools: Google-Colab, Python, Jupyter Notebook, GitHub
- Published a paper in ACM Buildsys 2019.
- Upgraded the NILMTK library in GitHub.

May 2016 - Jul 2016

### Summer Intern at Raman Classes, Roorkee

- Guide: Dr. Ankush Mittal (PhD. at NUS Singapore)
- Worked on Research Based Projects.
- Understood basic ML and Statistics.

## Projects

Jan 2020 - June 2020

### Modeling Performance and Power on Disparate Platforms (Open Source)

[GitHub Link](#)

- Focused on prediction of performance and power given the CPU architecture and memory features using transfer learning.
- Worked under the supervision of Prof. Amit Mankodi and co-supervised by Dr. Amit Bhatt( Associate Professor at DA-IICT).

May 2019 - Jul 2019

### NILMTK Contrib Library (Open Source)

[GitHub Link](#)

- Created a high level API in nilmtk-contrib (GitHub) which runs Disaggregation algorithms as an addition to NILMTK toolkit.
- Focused on Energy Dis-aggregation Algorithms like Denoising Autoencoder, RNN, LSTM & some Classic algorithms.

Jan 2019 - Mar 2019

### Customer Support Chatbot

[GitHub Link](#)

- Guide: Dr. Prasenjit Majumdar ( Associate Professor at DA-IICT)
- Conversational bot which solves user queries using sequence to sequence models like LSTM.
- Understood basic NLP and IR Techniques.

## Publications

- **Intent Detection and Discovery from User Logs via Deep Semi-Supervised Contrastive Clustering**, NAACL 2022 (Main Track).
- **Towards reproducible state-of-the-art energy disaggregation**. In Proceedings of the 6th ACM International Conference on Systems for Energy-Efficient Buildings, Cities, and Transportation (BuildSys '19). ACM, New York, NY, USA, 193–202.  
[Paper Link](#)
- **"Image based Indian monument recognition using convoluted neural networks"** 2017 International Conference on Big Data, IoT and Data Science (BID), Pune  
[Paper Link](#)
- **"Evaluating Machine Learning Models for Disparate Computer Systems Performance Prediction"** 2020 IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT)  
[Paper Link](#)
- **"Cross-Platform Performance Prediction with Transfer Learning using Machine Learning"** 2020 11th International Conference on Computing, Communication and Networking Technologies (ICCCNT)  
[Paper Link](#)
- **Book Chapter (Springer) - "Modeling Performance and Power on Disparate Platforms using Transfer Learning with Machine Learning Models"** International Conference on Modeling, Simulation and Optimization CoMSO 2020  
[Paper Link](#)

## Recent Reviews

- 18th International Conference on Natural Language Processing (ICON 2021)
- Asian Journal of Probability and Statistics (ISSN- 2582-0230)
- The Eleventh International Conference on Smart Grids, Green Communications and IT Energy-aware Technologies (Energy 2021 IARIA)

## Position of Responsibility

- Teaching Assistant, DA-IICT ; Subject Taught: Algorithms
- Mentor at Raman Classes, Roorkee ; Addressed queries related to Gate Subject

## Achievements

- GATE EXAM AIR (2017): 3,301 ; JEE MAINS AIR (2013): 24,236
- Merit Certificates and Gold Medals in X and XII.