Rajat Kumar

ML Engineer

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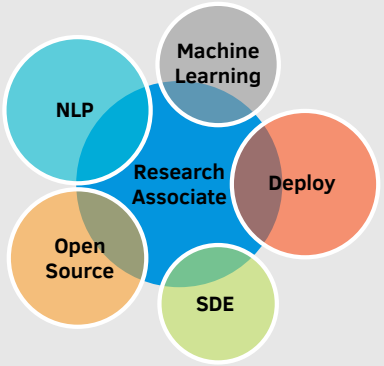
rajat-tech-002

Technical Skills

Overview



Programming

Python • C • C++

Pytorch • Keras

Docker • Kubernetes • PowerBI

SageMaker • Colab • Java • HTML

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 using cloud services like AWS.

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

- **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).
- **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.
- **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.
- **Web Application using React JS**
  GitHub Link

- Learnt React JS Framework.
- Created Fully Responsive Web Application Template Suitable for Startups.

Publications

- **Intent Detection and Discovery from User Logs via Deep Semi-Supervised Contrastive Clustering**, NAACL 2022 (Main Track).
  Paper Link
- **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.