

Rachna Ramesh

 rachna-r.github.io  Github: Rachna-R
 LinkedIn: rachnaramesh  rachna.x.ramesh@gmail.com

EDUCATION

EINDHOVEN UNIVERSITY OF TECHNOLOGY (TU/e) THE NETHERLANDS

MS, Data Science & AI
2023 - 2025*

UNIVERSITY OF KERALA, INDIA
BACHELOR'S, COMPUTER SCIENCE
2014 - 2018
CGPA: 8.51/10

SKILLS

LANGUAGES

Python • C++ • Java

CLOUD

Docker • Podman

TOOLS

Postman • Git • Jupyter

COURSEWORK

Research Topics in Data Mining
Foundations of AI
Foundations of Process Mining
Neural Networks
Graph Theory

AWARDS

HIGH PERFORMANCE IN PRODUCT DEVELOPMENT | July 2022

Received recognition from RRD
Leadership for performance and for
creating a new revenue stream for
RRD.

EMPLOYEE OF THE QUARTER | Q2 2021

Awarded from over 1500
employees by RRD.

MERIT SCHOLARSHIP RECIPIENT | 2015

Received from All India Council for
Technical Education (AICTE).

INDUSTRY EXPERIENCE

R.R DONNELLEY

AI ENGINEER, EMERGING TECHNOLOGIES

Aug 2019 – Jul 2023
CHENNAI, INDIA

- Utilized Deep Learning techniques and leveraged software engineering principles to conceptualize, design, and implement innovative solutions.
- Actively contributed to the development of Proof of Concepts (PoCs) and Minimum Viable Products (MVPs), in a dynamic team environment, blending theoretical knowledge with hands-on expertise for tangible outcomes.

QUEST GLOBAL

MACHINE LEARNING AND DATA ANALYTICS INTERN

Dec 2018 - May 2019
TRIVANDRUM, INDIA

- Worked independently to extract insights from building operational data.
- Investigated various machine learning (regression) algorithms and concepts of neural networks (RNN) to predict electricity bills and suggestions for improving the efficiency of various systems.

SELECTED WORK PROJECTS

DOCUMENT LAYOUT ANALYSIS | Python

- Enhanced automation efficiency, increasing the automation percentage of the manual remediation process to 65%, and then to over 78%, by creating a production grade tool currently being used across the organization.
- Researched and implemented LayoutMv3, specializing in multimodal document analysis, using the already tagged PDF documents.
- Previously trained models like Document Image Transformer (DiT using R-CNN and Cascade R-CNN from Microsoft), Detectron2 (FAIR) and YOLOv4 using the Publaynet dataset to identify the different elements of a PDF document.

NAMED ENTITY RECOGNITION AND ENTITY LINKING | Python

- Developed a chatbot based solution as part of a system to transform the current manual workflow to a completely automated workflow to retrieve financial documents of listed companies.
- Applied transformer based language models (like BERT, LUKE) to accurately identify multiple entities from a set of unstructured domain-specific data and link them.
- Optimized several language models (like BERT, RoBERTa) for performing the QA task (trained on SQuAD 2.0 dataset) to identify key entities from a user-given context as a PoC.

SEMANTIC SEARCH | Python

- Worked on a Knowledge Repository Platform employing Sentence-BERT (sentence-transformers).
- Demonstrated a better approach to improve the relevance of answers for queries, replacing the existing keyword-based search with contextual search for a set of domain-specific data.