

Rachna Ramesh

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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

Aug 2019 – Jul 2023

SENIOR SOFTWARE ENGINEER, **EMERGING TECHNOLOGIES** 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

Dec 2018 - May 2019

MACHINE LEARNING AND DATA ANALYTICS INTERN 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 - THE_LOFT AT RRD

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.