

# Rahul Yadav

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## EDUCATION

### University at Buffalo, Buffalo

*Master of Science in Computer Science and Engineering*

Coursework: NLP, Computational Linguistics, Pattern Recognition, Machine Learning, Algorithms Design

Aug. 2022 – Dec. 2023

New York, US

GPA: 3.79 / 4

### Indian Institute of Technology (Banaras Hindu University), Varanasi

*Bachelor of Technology in Electronics Engineering*

Jul. 2014 – May 2018

Uttar Pradesh, India

## EXPERIENCE

### Apex Analytix

*Machine Learning Engineer Intern | Archimedes Team*

May. 2023 – Aug. 2023

Greensboro, US

#### Knowledge Specific Conversational Agent

- Developed task-specific generative chatbot, leveraging a knowledge base derived from cross-team documents
- Built efficient retrieval system by utilizing LangChain for custom document preprocessing and ALBERT for vectorization.
- Deployed service across 12 teams within the organization, facilitating seamless and intelligent access to the 110 documents

### Oracle

*Senior Application Engineer | OFSS Machine Learning Team*

Sept. 2020 – Aug. 2022

Bengaluru, India

#### Preemptive Anomaly Prediction in Corporate Billing

- Engineered in-memory multivariate anomaly prediction service with model explainability, for insights into billing anomalies
- Optimized database performance with indexing and parallelism, processing 1.2M bills and 5M bill segments within 20 minutes.
- Integrated anomaly prediction service into Oracle Revenue Management and Billing (ORMB) product

### Wipro Limited

*Project Engineer | iX Team CTO Office*

June 2018 – Sept 2020

Bengaluru, India

#### Chatbot Services for Employee Helpline Portal's Ticketing System

- Implemented chat service for the employee helpline portal that accurately classified user query intent and used BERT embedding to provide relevant responses based on similarity with historical resolutions
- Released service significantly reduced workload on agents, resulting in decreased average wait time from 18 to 4 minutes

## PROJECTS

### Topic-Based Empathic Chatbot

Spring Term 2023

- Implemented open-domain chatbot with retrieval-based and casual conversation capabilities.
- Developed logical and rule-based dialog manager for effective query redirection based on user interaction
- Integrated retrieval and generative models, improving conversational accuracy by 35% while maintaining resource efficiency.

### Network-based Intrusion Detection System (NIDS)

Research Assistant, Dr. Hongxin Hu | Spring Term 2023

- Implemented an Intrusion Detection System using deep neural detectors to efficiently identify and respond to potential security threats in the network, mitigating the risk of data loss and downtime.
- Conducted comprehensive analysis on 12 different network attack datasets and evaluated the performance of 4 deep neural detectors. Reported insights into the limitations and effectiveness of methods.

## PATENTS and PUBLICATIONS

**Paper Published:** Virtual Conversation with Real-Time Prediction of Body Moments/Gestures

*Gopichand Agnihotram, Rajesh Kumar, Pandurang Naik, **Rahul Yadav***

ICMLIP 2019

[springerLink](#)

**Patent Granted:** Method And System For Multimodal Analysis Based Emotion Recognition

*Inventors: **Rahul Yadav**, Gopichand Agnihotram*

16/795840 [\[PDF\]](#)

Applicant: **Wipro Limited**

## SKILLS

**Languages :** Python, Java, C++, C, PLSQL, SQL, MongoDB

**Cloud :** Oracle, Azure, GCP, AWS

**Frameworks and Libraries :** Pytorch, Tensorflow, Keras, Langchain, OpenAI, MLFlow, Pandas, Git, Jenkins, Flask, SpringBoot