

# K B Rahul

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 Bangalore



## Staff Machine Learning Engineer

Driving AI-powered automation and security to transform customer experience, I lead innovations in LLM-driven chat, search, fraud detection, and agent assistance, building scalable systems that enhance efficiency, personalization, and trust. As a natural leader, I have led small, high-impact teams throughout my career.

*My special talent? I am just passionately curious.*

## Patents & Publications

- **Text-to-SQL Model Anchor Query Generation**  
US Patent Pending, May 2024
- **System and method for summarizing of customer interaction**  
US Patent, ID:US20210319481A1, Oct 2021
- **A method and system for evaluating quality of semen sample**  
US Patent, ID: US20200209221A1, Feb 2020
- **Smartphone Recognition from the recorded speech**  
SRIP Poster, May 2016

## Experience

### Staff Machine Learning Engineer - TLM at Coinbase

Nov 2021 – Present · Bangalore, Karnataka

Architected and deployed scalable LLM-powered systems that transform automation, personalization, agent efficiency, customer self-service, and intelligent hiring—while building and leading a high-impact team to deliver transformative projects.

Developed **Bad Actor Guardrails (\$XXM+)**, a system to **detect agent solicitations** through chat and phone channels with **>99% precision** using LLMs. Enhanced security by proactively identifying and mitigating fraudulent interactions.

Designed **Agent Assist (\$XM+)**, including reactive capabilities that provide **contextual recommendations** to support agents and **proactive solutions** that identify customer issues early, surfacing resolutions. Integrated LLM-powered insights to **improve customer experience and agent efficiency**.

Built **Help Center Search (\$XXXK+)**, an **LLM-powered** search system leveraging Coinbase's **help center knowledge base** to deliver real-time, contextual, and **personalized responses**. Improved search **relevance and precision**, enhancing customer experience.

Developed **Coinbase Chatbot (\$XXM+)**, the first at Coinbase scale—an in-house, LLM-powered chatbot **automating ~50%** of chat contacts. Enabled personalized, multi-turn interactions, autonomous knowledge retrieval, and multilingual support, reducing agent workload and improving accuracy.

Created **Resume Scoring (\$XM+)**, an **LLM-powered** tool **assisting recruitment** and hiring managers by **evaluating resumes** based on key requirements and personalized indicators. Enabled **consistent candidate assessment**, streamlining the hiring process.

Enhanced **Coinbase Recommendation Systems – Retail Feed Ranking (\$XM+)** by incorporating **NLP signals** and extracting knowledge from Coinbase articles to **improve content relevance**. Increased personalization and **engagement** by delivering more **relevant recommendations** in the app's feed.

Developed **Listnr – Voice of Customer (\$XXXK+)**, an ML-driven platform analyzing **customer concerns** across support channels. Built an async system for **topic generation** and **attribution**, enabling data-driven improvements in support and product experience.

## Skills

### Professional

Stakeholder  
TLM  
CX  
VoC

### Technical

Pytorch, Tensorflow  
Flink, Pyspark, Airflow  
Git, GitHub  
Containers

## Education

### Master of Computer Science

University of Illinois  
Urbana-Champaign

Class '23, 3.91 GPA  
Champaign, Illinois

### B.Tech, Electrical and Electronics Engineering

National Institute of Technology, Karnataka

Class '17, 8.6 CGPA  
Surathkal, Karnataka

### Higher Secondary, PCMC

KENSRI School

Class '13, 91.8%  
Bangalore, Karnataka

## Awards & Achievements

### Platform Award

Coinbase, 2023 and 2024

Recognized for automating support platforms and launching secure LLM solutions at Coinbase.

## **Founding/Lead Machine Learning Scientist at Agara - Acquired by Coinbase**

June 2018 – Nov 2021 · Bangalore, Karnataka

Pioneered AI-driven voice automation—built real-time conversation intelligence, autonomous assistants, and summarization systems to enhance customer support efficiency and agent productivity.

Designed and implemented **Voice Assist**, a conversation assistant for human agents, using an LSTM- and **BERT-based attention model** to predict **relevant events** from ongoing **telephonic conversations**. Built a system to retrieve and present relevant **knowledge base articles** in real time.

Developed **Voice Auto**, an autonomous conversation agent, by creating a state-of-the-art transformer-based **text-to-speech model** for real-time interactions and implementing a high-precision **voice word verification** system for user authentication.

Engineered **Voice Summary**, an autonomous **real-time summarization** system for **telephonic conversations** between customers and agents.

## **Computer Scientist at Sigtuple**

July 2017 – June 2018 · Bangalore, Karnataka

Developed **Aadi**, a **computer vision**-based analyzer for **andrology**, leveraging deep learning (UNet, residual networks, CNNs) for **morphological analysis** and a regression model for **motility estimation**. Solved multi-similar object tracking as an association problem to connect disjoint track sets.

## **Research Assistant, Music Technology Group, Carnegie Mellon University, under Prof. Roger B. Dannenberg**

Feb 2017 – June 2017 · Pittsburgh, Pennsylvania

Developed **FLOCTRL**, a platform hosting the **Laptop Orchestra**, utilizing a Forward Synchronous Time-map to achieve multi-platform synchrony. Established a **discovery protocol** to identify and obtain the identity of **nearby devices**, presenting users with a dynamic interface for **composing algorithmic** and **generative music**. Organized a student and academic computer music composer performance event for the Laptop Orchestra. Contributed to the development of the O2 platform, writing test cases to evaluate its robustness.

## **Research Assistant, Audio Forensics Lab, IIT-Gandhinagar, under Prof. Nitin Khanna**

May 2016 – July 2016 · Gandhinagar, Gujarat

Implemented an **automatic cellphone detection** algorithm using recorded audio, focusing on **high-frequency feature analysis** in a hardware device. Developed a stochastic feature-based learning model for **device recognition** and introduced a novel feature-set paradigm for efficient high-frequency **information retrieval**.

## **Top Talent Award**

Coinbase, 2022

Recognized for pioneering solutions across multiple domains at Coinbase.

## **Scholar of the Year**

KENSRI School, 2012

Recognized for exemplary and consistent performance across multiple programs.

## **Best Sportsperson**

KENSRI School, 2011

Recognized for significant contributions as a Volleyball captain and Football player.

## **Languages**

English (Proficient)

Hindi (Proficient)

Kannada (Proficient)

## **Extracurricular Activity**

### **Yoga Instructor**

Yoga Alliance, USA

2021-Present

### **Football Team**

National Institute of Technology, Karnataka

2014-2016

### **Music, Audio & Research Group**

National Institute of Technology, Karnataka

2015-2016