

# Nimish Bongale

Senior AI Research Engineer @ JPMorganChase

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## WORK EXPERIENCE

### Senior AI Research Engineer JPMorganChase

03/2021 - Present

Bengaluru, Karnataka, India

- Productionized **patent-pending multimodal expert language agentic framework** using **LLM/RAG/CAG**. (TTS + STT + TTT)
- Delivered **modules & dashboard** for **LLM Benchmarking & Evaluations** using "LLM as a Critic", "Self Reflection" & "Blackbox" techniques for **static & adaptive** thresholding, measuring **drift, hallucinations** etc.
- **Expert at OpenAI** services & specialized **enterprise grade prompting** techniques such as **Chain of Thought**.
- **Fine tuned & quantized 5+** models using **ONNX, AWQ & GPTQ**.
- Deployed **Whisper, Phi, Llama & Mistral** to **AWS Sagemaker**, achieved a **100+** tokens per second with **large context windows of 128K+**.
- Worked on a **new revamped productivity tool** impacting over **250,000+** users using a **patent-pending desktop based MFE**.
- Lauded with "**Software Engineer of the Quarter**" award for "**Excellence in Delivery & Leadership**" among **10+** other recognitions.

### Research Collaborator (Google Summer of Code) Rucio – CERN

06/2022 - 10/2022

Meyrin, Geneva, Switzerland

- Delivered the **Rucio WebUI** Open Source project dealing with **Scientific Data Management** for **Large Hadron Collider** runs generating **15+ petabytes** of data daily.
- Collaborated with scientists across **ATLAS & CMS** experiments to **transform & rearchitect** Rucio WebUI architecture within **4 months**.

### Technical Writer (Google Season Of Docs) Creative Commons

06/2020 - 03/2021

Mountain View, CA

- Maintained several CC repositories across **Hacktoberfest**
- Penned out a how-to guide to use the CC Vocabulary UI components. Designed and developed a **unified site leading to an integrated documentation** for each for Vocabulary, Vue-Vocabulary and Fonts.

## PUBLICATIONS & PROJECTS

#### Spider Monkey Optimisation Algorithm - Springer

Published a book chapter for their volume "Nature Inspired Computing for Data Science" under the series "Machine Learning for Intelligent Decision Systems". Submitted to indexing in SCOPUS, Google Scholar and Springerlink.

#### SatIRES - Sustainable Resource Management By Reconnaissance of Ecological Systems - Springer

Architected an intelligent hyperspectral imaging based application which determines the impact of pollution on solar energy generation and produces a dollar forecast.

#### BOT AndThenThereWereNone - Strong Chess Bot

Engineered a strong chess bot based on Stockfish 12's efficiently updatable neural network (NNUE) running on 12GB RAM from pythonanywhere.

#### HFLAV SWAN - LHCb Experiment for Anomaly Detection

Coded an In-browser interactive averaging of CERN collision data from the Large Hadron Collider Beauty Experiment (LHC-b) using Viola, deployed on Firebase.

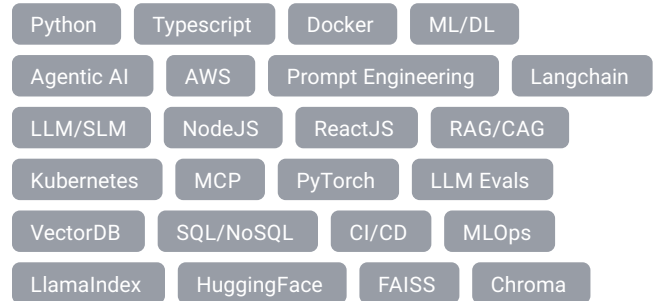
#### DocAid - Streamlining Electronic Health Records

Utilized QR Code auth for the purpose of sharing EHR data whilst easing out the hassle of medical appointments & providing intelligent suggestions to doctors.

#### CoffeeScan - Find your perfect coffee beans

Used Digital Image Processing concepts related to image functions & ResNet34 for classification. Based on just images the quality of the coffee is determined & anomalies are detected.

## SKILLS



## EDUCATION

### Bachelors of Engineering - Information Science Ramaiah Institute of Technology

2017 - 2021

CGPA: 9.6/10

- **Best College Outgoing Student 2017 - 2021**
- Operations Research, Data Science, Image Processing, NLP
- Software Engg, Innovation & Entrepreneurship, Machine Learning

### Masters of Science - Computer Science Georgia Institute of Technology

AI/ML Specialization

- Machine Learning, Deep Learning
- Knowledge-Based Artificial Intelligence - Cognitive Systems
- AI, Ethics, and Society, Reinforcement Learning
- Software Architecture and Design
- System Design for Cloud Computing

## CERTIFICATIONS & ACHIEVEMENTS

AWS Certified Developer Associate

AWS Certified Cloud Practitioner

Founder at Numera, The Logic & Reasoning Club of RIT

GRE Quant Score 167/170

Won 5x National & International Hackathons

Mentor & Judge @HackMIT

Won JPMC India Chess Competition

Write For DOnations for DigitalOcean

IEEE Cloud Conference Project Presentation - DocAid

Aasmaan, Tare Zameen Par, Spastiks Society NGO Volunteer

## LANGUAGES

English, Marathi  
Native or Bilingual Proficiency

Hindi  
Full Professional Proficiency