Gaurav Prakash

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EDUCATION

National Institute of Technology Karnataka — Surathkal, Karnataka
Bachelor of Technology in Information Technology — *Dec 2021 – May 2025*

The Indian School — Bahrain
Higher Secondary XII CBSE, Percentage - 96.2% — *Apr 2019 – June 2021*

EXPERIENCE

Data and AI Intern | *IBM India* — May 2024 - July 2024
- Worked with IBM Consulting's Data and Technology Transformation (DTT) team.
- Designed a Retrieval Augmented Generation (RAG) sales chatbot for Parle sales, integrating SQL and PDF data queries for tailored sales pitches.
- Implemented a WhatsApp interface using Twilio's REST API and a Django backend for Langchain's Large Language Models.
- Assisted in a Python geospatial analysis task using Google Maps API to optimize Parle's sales strategy based on local demographics.

PROJECTS

Refining LLMs with RL for Reducing AI Content | *Research Paper* — Jan 2024 - Apr 2024
- Leveraged the capabilities of Reinforcement Learning to fine-tune LLMs so as to generate text that resembles human language by making it less identifiable as AI content.
- Applied the Proximal Policy Optimization algorithm to fine tune a FLAN-T5 LLM for dialogue summarization.
- Achieved a 28% reduction in the AI content without affecting the meaning of generated text
- Presented at IEEE CONECCT-2024, held at IISc Bangalore.
- Link to paper '

Driver Drowsiness Detection System | *TensorFlow, OpenCV* — Jan 2024 - Apr 2024
- Developed a real-time drowsiness detection system that monitors eye states to identify prolonged eye closures.
- Trained a CNN on 10,000 eye images labeled "open" or "closed," augmented with synthetic data for improved accuracy.
- Utilized OpenCV to capture webcam video, score each frame as open or closed, and trigger an alarm upon exceeding the threshold score.

TECHNICAL SKILLS

Languages: Python, C++, MySQL, HTML/CSS, JavaScript
Libraries/Frameworks: Langchain, Django, GeoPandas, TensorFlow, NumPy, Matplotlib
Coursework: Data Structures and Algorithms, Operating Systems, Database Management Systems, Natural Language Processing, Computer Vision

EXTRA CURRICULAR ACTIVITIES AND ACHIEVEMENTS

Web Enthusiasts Club — November 2022 – Present
Student Member — *Algorithms SIG*
- Held various Knowledge Sharing Sessions (KSS) for college students

Music Club — November 2022 – Present
Club Member — *Vocalist*
- Participated and helped organise the Music Club Night

ACHIEVEMENTS

Incident NITK | *Ist Place* — February 2024
- Placed first in "Raaga Rhapsody", an inter-college singing competition organized by Incident NITK

NITK Football Team — Present
- Coordinated the annual NITK football cup and achieved second place.