# RAHUL SHARMA

→ +91 7349485773 — ■ rahulsharmaviswakarma@gmail.com — 🛅 linkedin/in/rahulsharmavishwakarma (p github/rahulsharmavishwakarma — 🌐 rahulsharmavishwakarma.github.io

**Summary** — Recent Computer Science & Engineering graduate with a strong foundation in AI, machine learning, and software development. Experienced in developing and fine-tuning AI models for computer vision, NLP. Proven track record in research and practical implementations, seeking full-time opportunities in Software Engineering, AI and machine learning.

#### **Skills**

Programming Languages: Python, SQL, JavaScript, C++, Java, HTML, CSS

Libraries: Numpy, Pandas, Matplotlib, Seaborn, TensorFlow, PyTorch, Scikit-Learn, Django, FastAPI, NLTK, Langchain, MLflow

Tools: Azure, GCP, AWS, Git/GitHub, Docker, Linux, VS Code, HuggingFace, Jupyter, Hadoop, Data Structures

Databases: MySQL, SQLite, MongoDB, Neo4j, Vector Databases, Pinecone, Milvus

Machine Learning: Deep Learning, Computer Vision, NLP, GANs, LLMs, Transformers, VAEs, Diffusion Models, RAGs,

Generative Models, Mutlimodal Models, R-CNNs

# **Experience**

### **HKBK College of Engineering**

Aug 2023 - May 2024

*Undergraduate Researcher* 

- Developed a model to analyze and respond to questions on biomedical images with over 70% accuracy.
- Conducted research on fine-tuning large language models like LLaMA for medical question-answering.
- Designed an R-CNN-based model to extract templates and information from documents for fraud analysis.

#### **Varcons Technologies**

Aug 2023 - Sep 2023

Machine Learning Intern

- Built a predictive sentiment analysis model for stock price prediction, achieving over 80% accuracy.
- Conducted research on various machine learning topics in computer vision and language processing systems.

#### **Publications**

Beyond Imagery: AI-Enhanced Diagnostic Assistant for Cancer and Tumor Diagnosis using Radiology Imaging link Authors: Dr. Nandha Gopal S M, Rahul Sharma, Nithin M, Prajwal B R, Prashanth Kalgonda Mar 2024 International Journal On Engineering Technology and Sciences (IJETS)

# **Education**

#### Visvesvaraya Technological University

Bengaluru, India

 $Bachelor\ of\ Engineering (B.E/B.Tech)\ in\ Computer\ Science\ and\ Engineering$ 

Sep 2020 – June 2024

CGPA: 8.6/10

Mahesh PU College

Bengaluru, India

12th Standard/PU in PCME

*May 2019 – Mar 2020* 

Percentage: 78% — Marks: 463/600

Bengaluru, India

10th Standard

**MES Public High School** 

Apr 2017 – Mar 2018

Percentage: 88% — Marks: 550/625

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# **Projects**

#### Medi-Care: VQA for Medical Imaging

link

- Developed a multimodal model for analyzing and responding to medical images using a diverse VQA dataset.
- Fine-tuned LLaMA models for question answering, achieving over 75% accuracy.
- Incorporated RAG techniques to enhance model accuracy and credibility for knowledge-intensive tasks.

## Document Template Matching using N-shot Learning and R-CNN

- Developed a model using R-CNN and YOLO for detecting templates and characters in documents.
- Incorporated N-shot learning for document matching, achieving over 80% accuracy.

#### Diffusion Detect link

- Integrated Stable Diffusion and YOLO for text-to-image generation and object detection.
- Implemented a pipeline for text prompts, image generation via Stable Diffusion, and YOLO object detection.

# Training YOLO object detection models for custom datasets

link

- Developed the algorithm to convert the annotations from Pascal VOC format to YOLO format.
- Developed a YOLO-based model for detecting personal protective equipment (PPE) in images, with a focus on improving workplace safety.
- Trained the model on a custom dataset to accurately identify various PPE items like helmets, gloves, and safety vests.

# **Certifications**

| MongoDB Certified Associate Developer MongoDB                                | <b>July 2024</b><br>link |
|--|--------------------------|
| Oracle Cloud Infrastructure 2024 Generative AI Certified Professional Oracle | <b>June 2024</b><br>link |
| Microsoft Certified: Azure Data Scientist Associate  Microsoft               | <b>June 2024</b><br>link |
| Deep Learning Specialization DeepLearning.AI                                 | Aug 2023<br>link         |
| Microsoft Certified: Azure AI Fundamentals  Microsoft                        | Feb 2023<br>link         |