P R I Y A N S H I K U M A R I

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GitHub | LinkedIn | Google Scholar | Portfolio

EDUCATION

Kalinga Institute of Industrial Technology — Bhubaneswar, Odisha, India
Computer science and engineering Bachelor of Technology (B.Tech.) — June 2023 - May 2027
CGPA: 8.33

DAV Public School Jamshedpur — Jamshedpur, Jharkhand, India
PCMB (PHYSICS, CHEMISTRY, MATHS, BIOLOGY, ENGLISH) CBSE-12 — May 2021 - May 2023

Sacred Heart Convent School Jamshedpur — Jamshedpur, Jharkhand, India
ENGLISH, HINDI, SCIENCES, SOCIAL SCIENCES, MATHEMATICS, COMPUTER SCIENCE ICSE-10 — May 2008 - May 2021
Percentage: 92.2%

EXPERIENCE

Robert Gordon University | Research intern — Aberdeen, Scotland (Remote) | June 2025 - May 2026

Under the guidance of Dr. Shahana Bano, I worked on advanced AI-driven solutions for Wire Arc Additive Manufacturing (WAAM) image analysis, integrating deep learning-based computer vision models with causal inference frameworks. In this work we propose a novel model integrating causality and vision based models for interpretable bead prediction in WAAM process.

Work under review at International Journal of Advanced Manufacturing Technology (JAMT). [Google Scholar]

Another research work on use of RL models like DQN, PPO applied for Greenhouse climate control is under review at Computers and Electronics in Agriculture. [Google Scholar]

University of Greenwich | Research intern — Greenwich, England, United Kingdom | May 2025 - May 2026

Started a new position as an undergraduate research intern at the University of Greenwich under the guidance of Professor Dr Razia Sulthana. Currently working as a deep learning researcher.

Our paper entitled "Empowering vertical farming with artificial intelligence and IoT" has been submitted and is under review in the journal "Ecological Informatics". [Google Scholar]

The work basically addresses how computer vision entangled with digital twins and reinforcement learning pave the way for new research in agriculture sector especially vertical farming and how quantum systems like the quantum cryptography can play a rich role in security of vertical farms.

Also currently working on implementing a new computer vision model inspired by biological and physics based algorithm for disease detection. Work accepted at IEEE IMSA 2026 held at Giza, Egypt. [Google Scholar]

Work on a new python package for satellite imagery using Quantum Algorithms under review at Innovative Applications of Artificial Intelligence 2027 co-located with AAAI (2027). [Google Scholar]

Thirsty Swan AI Labs | Research intern — Hyderabad, India | May 2025 - Sep 2025

The work is being done under the guidance of Dr Prudviraj a TCS researcher and we are working upon using vision language models with knowledge graph tracking to identify disease symptoms from images scraped from research papers from arxiv using OCR techniques

University of Kent | Research intern — Remote | Feb 2025 - Sep 2025

I have started a new position as a research collaborator under the guidance of Dr Zhongtian Sun where I explored physics informed Hamiltonian Dynamics with graph neural networks for predicting stability in mental health on the StudentLife dataset for forecasting in long rollouts. The paper has been submitted to IEEE ICASSP 2026. [Google Scholar]

University of Kentucky | Research intern — Remote | May 2024 - May 2025

Project: Signal Processing on Red Pitaya Using Verilog Trapezoid and Boxcar Filters and also implementing it in Jupyter notebook using numpy.

This project focuses on implementing trapezoid and boxcar filters for real-time signal processing on the Red Pitaya FPGA platform using Verilog. The design enhances signal quality by smoothing and shaping waveforms for applications such as digital spectroscopy, pulse processing, and embedded signal analysis.

SKILLS

Programming Languages: PyTorch TensorFlow Scikit-learn Keras Hugging Face Transformers CNN ResNet EfficientNet YOLOv8 LSTM GRU DQN Reinforcement Learning Multi-Objective Optimization Genetic Algorithm SQP Pareto Front GradCAM LoRA Fine-Tuning Whisper Vosk Qwen2.5 ASR NLP Computer Vision Digital Twin Federated Learning Python C SQL MATLAB Verilog Git GitHub Jupyter VS Code Google Colab NumPy Pandas Matplotlib Seaborn Plotly UMAP PCA

Feature Engineering Data Preprocessing Cross-Validation LOOCV Regression Classification Clustering Correlation Analysis Hypothesis Testing Time-Series Forecasting Predictive Modeling Random Forest Gradient Boosting SVM Ensemble Methods Remote Sensing / GIS Sentinel-2 NDVI NDWI SAVI BSI Rasterio GDAL GeoTIFF Cloud Masking Land Suitability Multimodal Fusion IoT / Embedded IoT Sensor Networks LoRaWAN Zigbee NB-IoT Raspberry Pi FPGA Red Pitaya Edge Computing

Databases: SQL, MongoDB

PROJECTS / OPEN-SOURCE

AI-Driven Fashion Trend Prediction & Virtual Try-On | Link | *HTML CSS JAVASCRIPT MONGODB AR/VR DATA ANALYTICS*

This project leverages data analytics and AR/VR to predict fashion trends and enhance the shopping experience. Machine learning analyzes fashion data from social media, retail sales, and online trends to forecast upcoming styles. AR/VR enables virtual try-ons, allowing users to visualize outfits before purchase. The system also provides personalized recommendations based on user preferences, reducing return rates and improving engagement.

The new advancements in fashion industry based on latest trends with the use of artificial intelligence and data analytics. Was developed as part of Myntra HackerRamp We for She.

Pharm-Graph-AI | Link | *Agentic AI, LangGraph, LangChain, crewAI*

Was selected at the top 61 teams at EY Techathon 6.0.

The Problem: Pharmaceutical companies spend 2-3 months manually reviewing scientific literature, patents, and clinical trial data to identify drug repurposing opportunities. This slow process leads to: time-consuming (2-3 months per opportunity), expensive (high R&D costs, missed commercial windows), incomplete (manual reviews miss hidden connections), and high risk (pursuing non-viable programs wastes resources). Drug repurposing (finding new uses for existing drugs) is a $30B+ market opportunity, but the discovery bottleneck prevents companies from capitalizing on it.

Our Solution: PharmGraphAI is an Agentic AI platform that automates drug repurposing research, turning months into minutes.

How It Works: User inputs any disease or medical condition. Master Agent orchestrates 7 specialized Worker Agents. Agents search PubMed, clinical trials, patents, market data. Knowledge Graph visualizes drug-disease relationships.

CERTIFICATIONS

- Letter Of recommendation - University Of Greenwich
- Health systems - Imperial College London
- Generative AI - IBM
- Prompt Engineering - Vanderbilt University
- Publication - IEEE Intelligent methods systems and applications
- Publication - IEEE Seventh International conference on Research in Computational intelligence and Communication networks. Feb 4, 2026
- All publications - Google Scholar profile

HONORS & AWARDS

- Semi Finalist at EY Techathon 6.0
- Best paper award at IEEE IMSA 2026