

SHASHIKANT KUMAR BIND

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📍 Delhi, India

RESEARCH OBJECTIVE

Pursuing advanced research in **Deep Learning for Computer Vision** and **Real-time AI Systems**, focusing on building robust, production-grade models for critical industry problems. Seeking to leverage dual-degree technical training to contribute with the long-term goal of pursuing a Ph.D. in Computer Science/Machine Learning.

EDUCATION

University of Delhi

B.Tech in Electronics & Communication Engineering (AI/ML Minor)

Relevant Coursework: Machine Learning, Deep Learning, Signal Processing, Neural Networks, IoT Systems

2023 – 2027

Delhi, India

IIT Madras

BS in Data Science and Applications

Relevant Coursework: Advanced Statistics, Data Science Fundamentals, Computational Thinking

2024 – 2028

Online / Hybrid

RESEARCH EXPERIENCE

DAViSE Lab, NIT Delhi June 2025 – Aug 2025

Summer Research Intern

Mentor: Dr. Sahil

- Designed an **Edge-Fog-Cloud architecture** for real-time IoT water quality monitoring, processing data from 6+ sensor types.
- Developed deep learning forecasting models using **LSTM and STARIMA** to predict contamination risks with high accuracy.
- Implemented a **data preprocessing pipeline** at the Edge layer that reduced redundant data transmission to the cloud by **35%**.
- Integrated ML models into a React-based dashboard for real-time GIS visualization of contamination alerts.

Soul AI

April 2025 – Present

Data Analyst Intern

Remote

- Architecting intelligent systems for automated financial data extraction from unstructured documents using **LLaMA 3** and **Gemini APIs**.
- Exploring transformer model applications to improve data extraction accuracy, reducing manual processing time by **70%**.

PUBLICATIONS

- S. K. Bind**, et al. "Real-Time PCB Defect Detection Using YOLOv8: A Deep Learning Approach for Manufacturing Quality Assurance." *IEEE International Conference on Reliability, Infocom Technologies and Optimization (ICRITO)*, 2025. (Accepted). [🔗 GitHub](#) [🔗 Google Scholar](#)

KEY PROJECTS

Real-Time PCB Defect Detection System [🔗 Link](#)

- Developed a production-grade computer vision system using **YOLOv8** to detect manufacturing defects in Printed Circuit Boards.

- Achieved **94% mAP@0.5** and **100ms inference latency** on CPU-constrained devices through rigorous anchor optimization and data augmentation.
- Deployed as a desktop application (Tkinter) and REST API (Flask), offering estimated cost savings of 2-3 lakhs annually.

Meal Maestro – AI-Powered Full-Stack App [🔗 Link](#)

- Built an end-to-end AI web application using **React.js**, **Node.js**, and **Supabase**.
- Integrated multi-model AI engines (LLaMA 3, Gemini) to generate personalized meal plans based on user constraints.

TECHNICAL SKILLS

Languages:	Python, C, C++, SQL
AI/ML Frameworks:	PyTorch, TensorFlow, YOLOv8, Scikit-learn, OpenCV
Developer Tools:	Git, Docker, VS Code, Jupyter, Google Colab, Postman
Web Technologies:	Flask, Supabase
Research Areas:	Computer Vision, Edge AI, Real-time Systems, Deep Learning Optimization

LEADERSHIP & ACHIEVEMENTS

- **Regional Coordinator, Nilgiri House (IIT Madras):** Led inter-hall coordination and peer mentorship initiatives for diverse student groups (2024–2025).
- **Winner, Photography Competition:** Recognized for creative excellence at IIT Madras (2024).
- **Winner, MSME 5.0 Hackathon:** Awarded for innovative solutions in micro, small, and medium enterprise technology development (2025).
- **Runner-up, Final Chess Competition (Paradox):** Secured second place in the flagship chess event, demonstrating strategic thinking and competitive excellence (2025).
- **PCM Topper, Sunbeam School Ghazipur (Class 12):** Secured 1st place in school with outstanding performance in Physics, Chemistry, and Mathematics.