

ASHWINI KUMAR KAR

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INTERSHIPS

Content and Data Analysis Intern | *Acechem Remedies Pvt Ltd* Oct 2024 – Apr 2025

- Analysed operational datasets using Excel and Google Sheets, surfacing key trends that informed decisions across 3+ departments.
- Built and delivered 10+ research-driven presentations, converting raw data into actionable insights for cross-functional stakeholders.
- Re-engineered data-reporting workflows, improving data accessibility and reducing decision-making turnaround time significantly.

Machine Learning Intern – Biomedical Research | *KIIT University* Dec 2024

- Designed and trained Logistic Regression and K-Means Clustering models using Scikit-learn and Pandas to classify patient outcomes.
- Built an end-to-end data pipeline including data cleaning, feature scaling, and feature engineering to eliminate bias in patient datasets.
- Achieved 87% classification accuracy with an F1-score of 0.81, delivering a production-ready predictive diagnostic tool.

PROJECTS

Rakshak – Emergency Blood Supply & Donor Engagement Platform | Jan 2025 – Present

- Building a full-stack platform integrating ML-based blood demand forecasting, blockchain-verified chain of custody, and gamified donor engagement to optimise blood bank operations at scale.
- Implementing a citizen-level emergency interface and hierarchical regulatory compliance automation to reduce response latency and improve blood availability across partner hospitals.
- Applying OOP principles, modular architecture, and engineering best practices to ensure scalability, reliability, and observability across distributed components.
- Developing an anti-theft blood tracking module with real-time monitoring and automated alerts to safeguard supply chain integrity.

IRIS – Retinal Disease Classification | Jan 2025 – Apr 2025

- Trained CNN, Vision Transformer (ViT), and YOLOv8-N models to diagnose retinal diseases from fundus imagery; achieved 95% accuracy.
- Benchmarked ViT vs. Swin Transformer vs. CNN to select the optimal architecture for diagnostic accuracy and computational efficiency.

Urban Sound Classification – Hybrid Deep Learning | Jan 2025 – Apr 2025

- Architected a CNN-BiLSTM-GRU hybrid model for 10-class urban sound classification relevant to smart-city environmental monitoring.
- Developed an Enhanced MFCC and Spectral Feature extraction pipeline, lifting accuracy by 20% over baseline; achieved 92% overall accuracy.

TECHNICAL SKILLS

Languages: C++, Python, C, Java

Web Technologies: HTML5, CSS3, JavaScript

Machine Learning & Data: TensorFlow, Keras, Scikit-learn, Pandas, NumPy, PyTorch

Tools & Platforms: Excel, Google Sheets, Git, Jupyter Notebook

Core Competencies: Data Structures & Algorithms, Object-Oriented Programming, Deep Learning, Model Optimisation, Data Pipelines, Software Engineering Principles, Cross-functional Collaboration

RESEARCH & PATENTS

Patent Filed – Indian Patent Office | Feb 7, 2026

- Anti-Theft Blood Tracking and Optimization System with Citizen-Level Emergency Interface, ML-Based Demand Forecasting, Blockchain-Verified Chain of Custody, Gamified Donor Engagement, and Hierarchical Regulatory Compliance Automation.

Research Paper – IEEE OCIT, KIIT University | Dec 20, 2025

- Presented a peer-reviewed research paper at the IEEE Odisha Conference on Information Technology (OCIT) at KIIT University.

LEADERSHIP & EVENT MANAGEMENT

Lead Organiser – KIIT-FEST 7.0 | *KIIT University* Jan 2024 – Feb 2024

- Orchestrated a national-level technical and cultural festival with 500+ participants from 20+ universities across India.
- Spearheaded the Pitch It innovation competition for 30+ teams, managing logistics, judging coordination, and real-time issue resolution.

Event Organiser – BytoMania | *KIIT University* Sep 2023

- Coordinated logistics for 1,000+ students, collaborating with 5+ teams on crowd management and real-time issue resolution during the event.
- Demonstrated strong stakeholder communication and cross-team coordination skills under high-pressure, large-scale event conditions.

ACHIEVEMENTS & CERTIFICATIONS

- Academic Excellence: Graduated with the highest CGPA of 9.66/10 at KIIT University across the Computer Science department.
- Best NSS Volunteer (Unit-wise): Recognised by KIIT University for outstanding contributions to community service through the National Service Scheme.
- Rajya Puraskar: Received the highest state-level award from Bharat Scouts and Guides in recognition of exemplary scouting service.
- Red Cross India: Awarded a service certificate for participation in the Baliyatra humanitarian initiative.
- Certifications: Data Analytics (Udemy), Machine Learning (Coursera) – demonstrating continuous upskilling in ML and data disciplines.

EDUCATION

Lovely Professional University

Master of Computer Applications (MCA)
Jalandhar, Punjab

Aug 2025 – Present

KIIT University

Bachelor's of Science (Computer Science Hons)
Bhubaneswar, Odisha | CGPA: 9.66 / 10

Oct 2022 – Jul 2025

Kendriya Vidyalaya

Intermediate (Class XI–XII)
Cuttack, Odisha

Apr 2018 – Mar 2020