

Himanshu Singh

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SUMMARY

Result-oriented Software Engineer with a Master of Computer Applications (MCA), specializing in Full-Stack Development, Data Science, and Machine Learning. Experienced in designing, developing, and deploying scalable web applications and data-driven systems. Skilled in modern frameworks, databases, and cloud technologies with a strong focus on performance optimization, clean architecture, and problem-solving. Adept at working in Agile environments and passionate about continuous learning, innovation, and delivering high-quality software solutions.

TECHNICAL SKILLS

Languages: Java, Python, JavaScript

Frontend: React, Angular, HTML5, CSS3, Bootstrap, Tailwind CSS

Backend: Node.js, Express.js, Spring Boot, Flask, Java Servlets, REST APIs

Databases: MySQL, MongoDB

Data Science & ML: Pandas, NumPy, Scikit-learn, TensorFlow, Matplotlib, Seaborn

Tools & Platforms: Git, GitHub, Docker, Postman, Jupyter Notebook, Anaconda, Google Colab, VS Code, NetBeans

WORK EXPERIENCE

Full Stack Developer - Freelancer

Advanced Computer Ranchi – Jharkhand, IN

Feb 2025 – July 2025

- Built and deployed a responsive company website with React.js & Tailwind CSS, reducing bounce rate by 20% and increasing load speed by 30%.
- Collaborated with stakeholders to gather requirements and refine UI/UX, delivering a polished website that enhanced brand visibility and customer engagement.
- Optimized React components, resulting in a 30% increase in page load speed and improved site performance.
- Tech Stack: React, Tailwind, JavaScript

PROJECT & RESEARCH

EIRIS Scan – AI-Based Eye Health Analysis – Research Project

Jul 2025 – Present

Artificial Intelligence & Machine Learning – Vellore Institute of Technology, Vellore

- Developed an **AI-powered eye health analysis system** integrating **disease and stress prediction** modules within a single **Streamlit dashboard** for real-time ocular image evaluation.
- Implemented an **ensemble deep learning architecture** combining **ResNet50, DenseNet121, and EfficientNet-B3** for **7+1 disease classification**, achieving **96% accuracy**.
- Built a **stress-level prediction model (3+1 classes)** using **EfficientNet-B3**, attaining **94% accuracy** on high-resolution eye datasets.
- Enabled users to **capture live images via camera or upload from local storage**, perform automated analysis, and **download comprehensive PDF diagnostic reports**, using **TensorFlow, OpenCV, and Scikit-learn** for real-time inference.
- Tech Stack:** Python, TensorFlow, Keras, OpenCV, Scikit-learn, NumPy, Pandas, Matplotlib, Streamlit, ReportLab, Pillow, jupyter notebook.

Intelligent SLA & Real-Time Network Monitoring – Research Project

Aug 2024 – May 2025

Cloud Computing & AI/ML – Vellore Institute of Technology, Vellore

- Designed an ML-based risk assessment system for cloud SLA management. Leveraging reinforcement learning to dynamically predict and mitigate breaches, reducing SLA violations by 30%.

Image2Cart: AI-Powered Similar Product Search – Project

Artificial Intelligence & Machine Learning

- Developed a **real-time visual product search system** using **MobileNetV3 Small** in PyTorch for image embedding and similarity matching.

- Implemented **cosine similarity-based retrieval** with precomputed vectors, supporting both uploaded images and URL inputs.
- Built an **interactive Streamlit dashboard** with category filters, top-K results, similarity threshold, and CSV download functionality.
- Optimized for **production deployment** with caching, error handling, and scalable loading of product metadata and embeddings.
- **Tech Stack:** Python, PyTorch, torchvision, PIL, Streamlit, JSON, pandas

Personal Productivity Dashboard – Project

Full Stack Development

- Designed and deployed a full-stack Todo list application to help users manage tasks efficiently, featuring user authentication and a persistent database.
- Implemented full CRUD functionality using Flask and SQLAlchemy, allowing users to seamlessly create, read, update, and delete tasks.
- Built a dynamic frontend with Jinja2 templating and Bootstrap, ensuring a responsive and intuitive user interface.
- Tech Stack: Jinja2, Bootstrap, Flask, Python, Flask-SQLAlchemy

Car Catalog Systems – Project

Full Stack Development

- Architected a full-stack Car Catalog application with a React frontend and Spring Boot backend to help users browse and filter vehicles.
- Developed a RESTful API with Spring Boot to handle car data stored in MySQL, ensuring secure and efficient data retrieval.
- Implemented dynamic filtering and sorting features (e.g., by body type, model year), improving user search efficiency and satisfaction by 41% based on user testing feedback.
- Tech Stack: React.js, Spring Boot, MySQL, REST API

EDUCATION

Master of Computer Applications Vellore Institute of Technology	2024-2026 (Expected) CGPA: 7.8
Bachelor of Computer Applications Techno India Kolkata, Kolkata	2021-2024 CGPA: 7.9
Senior Secondary Education Hariyana Vidya Mandir, Kolkata	2021 CBSE Commerce
Secondary Education Hariyana Vidya Mandir, Kolkata	2019 CBSE

CERTIFICATIONS

- Java Programming – Great Learning
- Cloud Foundations – Great Learning

LEADERSHIP & CAMPUS INVOLVMENT

Executive Head, Genesis | Techno India Kolkata June 2023 – June 2024

- Led a 150-member team to organize a departmental fest with 500+ participants
- Secured amount of 150,000+ in sponsorship funding by spearheading outreach initiatives to 10+ local businesses.

Core Member, Ankuran | Techno India Kolkata June 2022 – June 2024

- Partnered with 10+ committee heads to successfully deliver & organize College Cultural fest & inhouse events, attracting 1500+ participants
- Mentored a sub team of 80+ juniors in event management & Coordinated inter-college competitions, with 300+ registrations per event.

Member | National Institute for Technical Training & Skill Development

May 2022

ACHIVEMENTS

- **VITMEE 2024:** All India Rank (AIR) - 145 (Highly Competitive National Entrance Exam for MCA)
- **CET-II 2021:** All India Rank (AIR) - 1019 (Highly Competitive National Entrance Exam for BCA)