Ayush Goswami

Software Engineer | Full-Stack Development | Machine Learning & AI Enthusiast

CONTACT

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GitHub: Github Link

Portfolio: Portfolio Link

EDUCATION

VELLORE INSTITUTE OF TECHNOLOGY
B. Tech Computer Science Engineering
Completion: 2026
CGPA: 8.1

Navyug Convent School
12th Grade (2022)
Overall: 83%

Amity International School
10th Grade (2020)
Overall: 90%

EXTRACURRICULARS and CERTIFICATES

- **Semi-Finalist of Build with India Hackathon** by HackwithIndia
- **LeetCode 150+ questions**
- **Advanced Learning Algorithms** by **DeepLearning.AI and Stanford University**
- **Supervised Machine Learning: Regression and Classification** by **DeepLearning.AI and Stanford University**
- **Advanced Software Engineering Job Simulation** by Walmart GlobalTech
- **Career Essentials in Generative AI** by Microsoft
- **Artificial Intelligence Job Simulation** by Cognizant
- **Database management system** by scalar

SKILLS

C | C++ | Python | Java | R | HTML | React | Node.js | Flask | Flask-CORS | SQL | MySQL | PostgreSQL | SQLAlchemy | Machine Learning (ML) | Deep Learning (DL) | Natural Language Processing (NLP) | Prompt Engineering | OpenCV | Forecasting & Modelling | Predictive Modelling | Arduino | AWS | SpaCy | Figma | Vercel | Netlify | Real-time Data Analysis | Data Visualization | Risk Assessment & Management | RESTful APIs | Agile | Git | Project Management | Stakeholder Management | Time Management | Critical Thinking | Problem-Solving | Communication | Collaboration | Negotiation

INTERNSHIPS

Web Developer Intern | Pooja Fasteners (Jan 2025 – Mar 2025)

- Designed and developed a responsive website for Pooja Fasteners, enhancing the company's online presence.
- Implemented modern UI/UX principles using HTML, CSS, JavaScript, and React for an intuitive and user-friendly interface.
- Optimized website performance and responsiveness across devices, ensuring a seamless user experience.
- Implemented comprehensive SEO best practices to optimize content structure, which led to an impressive rise of over 1,000 monthly visits from search engines and enhanced overall user engagement across the platform.
- Collaborated with stakeholders to gather requirements and refine website functionalities

PROJECTS

IMNS-AD: Multi-Modal Ensemble Prediction of Alzheimer's Disease (Ongoing)

- Creating a multi-modal ML model for early-stage Alzheimer's prediction, integrating clinical, fMRI, and genetic data to improve diagnostic accuracy.
- Novel approach: ensemble fusion of deep learning (CNNs/Transformers) for fMRI and statistical models for clinical/genetic features, handling unaligned datasets.
- Targeting 85%+ AUC for early diagnosis, surpassing traditional methods by 10-15% in predictive accuracy.
- Optimizing spatial normalization, feature selection, and transfer learning to enhance model generalization across diverse datasets.
- Automating preprocessing pipelines (FSL, NiLearn, NumPy) and leveraging GPU acceleration for scalable training.
- Exploring real-world deployment through cloud-based inference systems for faster, scalable clinical applications.

AI-Powered Pneumonia Detection from Chest X-Rays

- The model achieved **92.14% test accuracy**, surpassing baseline approaches.
- Leveraging transfer learning, self-attention, and advanced preprocessing to enhance feature extraction and model robustness.
- Fully automated pipeline with TensorFlow/PyTorch, real-time cloud deployment, and GPU-accelerated inference for instant, scalable clinical applications.

Ethical Assistant System Project link

- Developed an AI-powered web app guiding users through ethical decisions using Utilitarianism, Deontology, and Rights-Based frameworks. Integrated the Cohere API to power the backend of an ethical assistant chatbot, enabling advanced natural language processing for seamless user interactions.
- Optimized query handling, reducing response times by 30% on complex ethical dilemmas. Achieved 90% user satisfaction in testing, based on feedback regarding decision clarity and usefulness.
- Deployed on Netlify with a responsive, modern UI, maintaining a 95% uptime since launch.

Air Quality Monitoring and Room Safety Prediction

- Improved a machine learning model to predict room safety based on air quality and health data.
- Trained a Random Forest model with 92% accuracy for classifying rooms as safe or unsafe based on AQI levels.
- Implemented AQI categorization and feature encoding, improving environmental and health assessments by 30%.
- The system reduced room safety assessment time by 50% compared to traditional methods.