Utsav Pal

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Nagpur, Maharashtra, India

EDUCATION

Vellore Institute of Technology University, India — 2022 – 2026
B.Tech in Computer Science; CGPA: 8.5/10

Kendriya Vidyalaya Ambajhari, Nagpur, India — May 2022
HSC, CBSE; 93%

Kendriya Vidyalaya Ambajhari, Nagpur, India — May 2020
SSC, CBSE; 89%

TECHNICAL SKILLS

Languages: Python (Proficient), Java
Full Stack: FastAPI, Django, JS, HTML, CSS
Database & Cloud: MySQL, AWS, Vercel
Data Science & ML: NLP, ML Algorithms, NumPy, Pandas, Matplotlib
Developer Tools: Sublime, VS Code, Git, Docker, Jupyter, Github
CS Fundamentals: DSA, OOP, OS, DBMS

PROJECTS

PyDeadCode – Python Dead Code Analyzer — Python, CLI — 2025
- Implemented AST-based static analysis to detect unused Python code.
- Traversed syntax trees using visitor patterns for symbol usage tracking.
- Identified dead functions, imports, and variables via definition-usage analysis.
- Built fast CLI tool suitable for large codebases and CI pipelines.

Go2.Ninja – Distributed URL Shortener — Python, FastAPI, MySQL — 2025
- Designed and implemented a REST-based URL shortening service using FastAPI.
- Generated collision-resistant 7-character Base62 short codes (62^7 keyspace).
- Stored URL mappings and analytics in MySQL hosted on Aiven.
- Implemented HTTP 301 redirection with click-count tracking for each URL.
- Used SQLAlchemy ORM for schema design, indexing, and efficient lookups.
- Deployed using ASGI (Uvicorn) with environment-based configuration support.

Predictive Health Diagnosis System — Python, ML, Django — 2024
- KNN-based disease prediction with **92% accuracy** and 0.89 F1-score for reliable outcomes.
- Applied preprocessing, feature scaling, and cross-validation to improve prediction reliability by 20%.
- Integrated model into Django web app providing real-time predictions with intuitive interface.
- Performed error analysis and feature importance evaluation to provide actionable insights.
- Designed a user-friendly dashboard to display predictions and historical patient data.

OPEN SOURCE CONTRIBUTIONS

OpenClimateFix — 2024
- **UK-PVNet:** Refactored 3 large functions into 10 modular units, reducing code complexity by **25%**, improving testing, updating documentation, and resolving merge conflicts.
- **OCF-Data-Sampler:** Fixed **200+ linting errors** and formatted codebase using Ruff & Black, achieving **100% lint compliance**, reducing CI/CD failures, and improving developer productivity.

CERTIFICATIONS

- DevOps Fundamentals — IBM
- Cybersecurity Analyst — IBM

ACHIEVEMENTS & EXTRA-CURRICULAR

- Maintained a 913 rating on Codeforces through consistent problem solving.
- Active member of the Coding Block Club, contributing to peer learning and coding workshops.
- Football player (Right Wing) representing Kendriya Vidyalayas at Regional, Cluster, and Club levels.