VAIDIKA KAUL

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EXPERIENCE

Research Intern - Medicaps University | Jun - Jul 2025 | GitHub
- Architected and built a CNN encoder–decoder + detector for satellite steganography, achieving **99.99% train** and **95.60% cross-domain accuracy**.
- Enabled **256-bit payload embedding** with controlled distortion (PSNR up to 147.16 dB; MSE ≤ 0.041) and validated stealth robustness through domain-generalized detectability benchmarking (92.5% → 50%).

AI/ML Intern – Edunet Foundation | Apr - May 2025 | GitHub
- Developed a CNN-based image classifier for forest fire detection (data augmentation, training, evaluation) using binary cross-entropy and Adam optimizer.
- Built a CNN-based forest fire detection model with end-to-end training and evaluation in Google Colab.

PROJECT EXPERIENCE

MAKNE - SaaS Platform for Brand–Creator Collaboration - Live | GitHub
[Tech Stack: *Next.js, TypeScript, Node.js, MongoDB, Tailwind CSS, JWT, REST APIs, Render*]
- Architected and shipped a production-grade SaaS platform supporting 2 user roles and a 3-stage agreement lifecycle implementing milestone-driven execution workflows with strict state validation and structured MongoDB schema design.
- Engineered 40+ JWT-secured RESTful API endpoints with role-based access control (RBAC) and permission-scoped data access, while building a responsive, modular dashboard system enabling end-to-end agreement tracking, milestone submissions, and revision cycles across desktop and mobile environments.

Noctura - Production-Grade Full-Stack Productivity Platform - Live | GitHub
[Tech Stack: *React, Node.js, Express, MongoDB, JWT, Render*]
- Architected and shipped a production-grade full-stack productivity platform with 5+ modules and persistent user state across task, habit, Kanban, and calendar workflows.
- Designed 100+ JWT-secured REST APIs with role-based access and structured MongoDB schemas, delivering secure data handling and a fully responsive cross-device UI.

Anomate Stream - ML-Driven Anomaly Detection for Containerized Systems - GitHub
[Tech Stack: *Python, Isolation Forest, Falco, scikit-learn, Pandas, Streamlit*]
- Designed a 5-stage modular anomaly detection pipeline for container runtime security using Falco-mimic system call logs, spanning data ingestion, preprocessing, ML inference, visualization, and deployment in a unified workflow.
- Trained an unsupervised Isolation Forest model (100 trees, 10% contamination) on encoded syscall, CPU, and memory features, achieving 94.6% accuracy, 91.2% precision, and 90.3% F1-score, and integrated results into a Streamlit dashboard for log uploads, anomaly labeling, and exportable analysis.

EDUCATION

- **Bachelor of Technology - Computer Science Engineering**   **2022-2026 (pursuing)**
  Medi-Caps University, Indore   Indore,India
- **CBSE XII [Aggregate: 87.6%]**   **2021-2022**
  SICA S.S. School, Indore   Indore,India

SKILLS

Frontend: Next.js, React.js, Tailwind, JavaScript, HTML, CSS, UI Component Libraries, Responsive UI Design
Backend: Node.js, Express.js, REST APIs, JWT-based Authentication, Firebase
Databases & Tools: MongoDB, PostgreSQL, Redis, Git/GitHub, Postman, Docker, GitHub Actions

ACHIEVEMENTS

- **Hack'Ndore (National Hackathon)** | Top 100 teams nationwide for building and presenting a functional prototype.
- **Re-Imagine (National Frontend Hackathon)** | Top 800 teams nationwide for UI implementation.