PRATHAM SARAF

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EDUCATION

New York University, New York, USA - Masters in Computer Science **Expected: May 2026, CGPA – 3.88/4**

TA: Deep Learning — Assisted 120+ graduate students with coursework, assignments, and lab sessions.

RA: AI & Neuroscience Research — Working with Profs. Banerjee & Froemke on facial morphing detection pipelines and vision models for behavioural neuroscience.

Coursework – Big Data, Artificial Intelligence, Deep Learning, Opensource Development, Information Visualization, DAA – I

Manipal University Jaipur, Jaipur, India **July 2024**

B.Tech in Data Science Engineering - Received the Dean' s List Excellence in Academics Award **CGPA - 8.91/10**

Coursework – Data Structures, OOPS, Computer Networks, OS, Machine Learning, NLP, Artificial Intelligence, Big Data Analytics.

PROFESSIONAL EXPERIENCE

Hewlett Packard Enterprise (HPE), Mumbai, India | *Data Science Intern* **July 2023 – July 2024**

- Designed server management system using Isolation Forest, reducing potential crashes and vulnerabilities by **30%**.
- Implemented testing pipelines with Prometheus, Loki, and Grafana, ensuring real-time anomaly detection across distributed servers.
- Optimized MicroStrategy analytics dashboard, reducing query latency **10x** and improving performance for thousands of daily users.
- Developed YOLO-based document classification pipeline (95% accuracy), automating sensitive info detection & masking.
- Deployed anomaly detection pipeline to 100+ enterprise servers, improving scalability and operational reliability.

Oil and Natural Gas Company (ONGC) Mumbai, India | *Project Intern* **June 2023 – July 2023**

- Built predictive maintenance model (Random Forest, XGBoost), lowering equipment downtime by **25%**.
- Partnered with electronics team to refine feature selection, improving analysis precision by **15%**.
- Developed real-time analytics platform for sensor data visualization, increasing decision-making speed by **8%**.
- Streamlined sensor data pipelines using optimized batch processing, reducing storage overhead and improving query efficiency by **12%**.

OnFees, Mumbai, India | *App Development Intern* **January 2023 – February 2023**

- Integrated news feed and chat widget into mobile app, boosting user engagement by **20%**.
- Contributed to 10 feature updates in EdFly app with a 15-member team, improving release velocity by **25%**.

PROJECTS

GuardNet – Intelligent DNS Security Platform | *Go, Node.js, React, Docker, Kubernetes, Redis, PostgreSQL`*

- Built **RESTful API gateway (Node.js)** and React dashboard for monitoring, analytics, and configuration.
- Designed a **Go-based DNS resolver with caching**, achieving **<15ms response times** in simulated enterprise and family networks.
- Containerized services with Docker & Kubernetes; implemented end-to-end testing for DNS filtering, ad blocking, and threat detection.

WholeSight – AI Nutrition & Health Assistant | *Flutter, Dart, Firebase, Google Gemini API*

- Developed a cross-platform mobile app with **AI-powered food recognition** (>90% accuracy) and multimodal logging (camera, barcode, voice, text).
- Integrated Firebase (Auth, Firestore, Cloud Storage) and applied **Clean Architecture + BLoC pattern** for scalability and maintainability.
- Delivered personalized nutrition insights and meal planning features, increasing engagement in pilot tests by **25%**.

RESEARCH

AR/VR Dichoptic Rendering Optimization (Immersive Labs) - Prof. Sun Qi | *Unity, Python* **July 2025**

- Developing dichoptic foveation technique that selectively blurs one eye while sharpening the other, exploiting binocular fusion to maintain perceptually identical visual quality while reducing rendering compute overhead.
- Building real-me rendering pipeline in Unity with Python-based optimization algorithms for asymmetric eye processing in VR/AR headsets.

Facial Morphing Detection (NYU – Forensics AI) - Prof. S. Banerjee | *Python, PyTorch, Qwen 2.5, Molmo 2, HuggingFace* **July 2025**

- Built ML pipeline with automated evaluation scripts, optimizing accuracy and scalability for forensic biometric workloads.
- **Active Research:** Exploring **distillation of Qwen2.5-72B models into lightweight 7B architectures** for faster, resource-efficient detection.

TECHNICAL SKILLS

Programming Languages: Python, C++, Java, JavaScript, Dart, SQL | **Databases**: PostgreSQL, MySQL, SQLite, MongoDB
Frameworks: TensorFlow, PyTorch, Hugging Face, Flask, React, Flutter, Hadoop | **Tools**: Firebase, MicroStrategy, Linux, VS Code
Cloud & DevOps: AWS (EC2, S3, Lambda), Docker, Kubernetes, Git, CI/CD, Prometheus, Grafana | **Testing & QA:** Selenium, TestNG
AI/ML & Generative AI: Computer Vision (YOLO, OpenCV), NLP (Transformers, CLIP), LLM (Gemini API), Model Training & Deployment

EXTRACURRICULAR ACTIVITIES

- Mentored 10+ participants at IC Hack IEEE India Council Hackathon, 2023, providing guidance in app development and offering.