

ANAY SINHAL

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EDUCATION

University of Florida

M.S. Computer & Information Science & Engineering

- Began graduate coursework during **CISE Senior Certificate**, Spring 2025 (GPA: 3.91/4.00).

Gainesville, FL, USA

Expected Fall 2026

JK LakshmiPat University

B.Tech. Computer Science & Engineering

- CGPA: 8.76/10
- Semester Exchange, **Indian Institute of Technology Kanpur** - Spring 2024
- Semester Exchange, **Indian Institute of Technology Gandhinagar** - Fall 2022

Jaipur, India

Aug 2021 - May 2025

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript, Go, C++, SQL, Gleam

AI/ML: TensorFlow, PyTorch, Hugging Face, scikit-learn, OpenCV, NLP, Prompt Engineering, LLM Fine-Tuning

Web Development: React.js, Next.js, Node.js, Django, FastAPI, Spring Boot, HTML/CSS

Databases: PostgreSQL, Redis, MongoDB, SQL

DevOps & Cloud: Docker, Git, CI/CD, AWS (S3, EC2), Vercel, Bash Scripting

Developer Tools: Figma, Blender, Postman, Unreal Engine 5, Zoho Creator

EXPERIENCE

Intelligent Clinical Care Center (IC3), University of Florida

Graduate Student Assistant Gainesville, FL, USA

Sep 2025 – Present

- Develop and maintain scalable data pipelines using Python and Docker to ingest, harmonize, and process large-scale health datasets.
- Containerize data processing workflows, ensuring reproducible environments and streamlining the deployment of backend services

Indraprastha Institute of Information Technology Delhi (IIIT-D)

Research Assistant New Delhi, India

Sep – Oct 2024

- Engineered and deployed scalable full-stack applications for AI-powered medical diagnostic tools, utilizing a Next.js, Node.js, and PostgreSQL stack.
- Established CI/CD pipelines for automated testing and deployment, accelerating the delivery of software for models used in cancer detection and ECG analysis.

GeeksforGeeks

Software Development Intern Noida, India

May – Sep 2024

- Built & refactored key modules (“Articles,” “Videos,” “Quizzes”) with Next.js and React over legacy PHP, focusing on performance optimizations to enhance page responsiveness and user engagement.
- Added structured-data tags & server-side rendering that pushed several high-traffic pages into top results.

Sardar Vallabhbhai National Institute of Technology Surat (SVNIT)

Research Intern Remote

May – Jul 2024

- Developed a contrastive learning pipeline with BERT for depression detection on the DepressionEmo dataset, achieving a F1-score of 0.81.
- Outperformed other deep learning models, improving the F1-score by nearly 10% over a standard BERT implementation ($0.74 \rightarrow 0.81$) by enhancing contextual text representation.

Indian Institute of Technology Jammu (IIT-Jammu)

Research Intern Remote

Dec 2023 – Jan 2024

- Built a stacking ensemble classifier (Random Forest, XGBoost, MLP) for stress detection using 11.5M wearable-sensor records from nurses, achieving a 93.7% macro F1-score with 14.5 ms inference latency.
- Implemented a SMOTE-Tomek hybrid resampling technique that boosted recall for the minority chronic stress class by 37% compared to standard oversampling methods.

Dexpert Systems Pvt. Ltd.

Software Development Intern Pune, India

Jun – Jul 2023

- Delivered a React front-end & Spring Boot/Laravel backend integration for Zoho CRM, reducing lead-assignment latency from minutes to seconds.
- Implemented REST APIs with JWT auth; documented the endpoints & handed off clean Docker-compose stacks.

PROJECTS

Medlyze <i>Next.js 15, TypeScript, PostgreSQL/Prisma, NextAuth, Tailwind</i>	<i>Oct 2025</i>
<ul style="list-style-type: none">Built a privacy-first medical report pipeline with AES-256 file encryption, regex-based de-identification, and role-based access for patients and doctors.Implemented multimodal analysis for PDFs and images using LLM and vision models, plus longitudinal biomarker tracking and risk scoring dashboards.	
Sepsis Sentinel <i>Python, FastAPI, XGBoost, React, Docker, PostgreSQL</i>	<i>Jul 2025</i>
<ul style="list-style-type: none">Developed an ML pipeline using XGBoost & LightGBM for early sepsis detection from EHR data, achieving an AUROC of 0.89 on clinical validation sets.Engineered a full-stack clinical decision support tool with a FastAPI backend & a React dashboard, reducing median detection time by 4 hours in simulations.	
FinMate – Personal Finance Manager <i>Django, React, Chakra UI, D3, Plotly</i>	<i>May - Jun 2025</i>
<ul style="list-style-type: none">Integrated Plaid API & ML (Random Forest prediction, Isolation Forest anomaly detection) in Django backend; generates monthly PDF/CSV spend reports.React + Chakra UI dashboard with D3/Plotly visualisations; delivers personalised budget alerts via email & in-app notifications.	
Navigator AI Console <i>Next.js 14, TypeScript, LiteLLM, PostgreSQL, Redis, NextAuth</i>	<i>Jun 2025</i>
<ul style="list-style-type: none">Built a Next.js 14 + TypeScript web console unifying chat, embeddings, & Whisper STT across 12 LLM endpoints via LiteLLM gateway; delivers token-streamed responses with ≤ 200 ms median latency.Added PostgreSQL + Redis metering & NextAuth auth to enforce a free-tier (first 2 requests) & 10-request daily quota; services ~ 300 user calls per day without SLA breaches.	
CampusCupid <i>Go/Gin, PostgreSQL, React, Render.com</i>	<i>CEN5036, Jan - Apr 2025</i>
<ul style="list-style-type: none">Led 4-dev team building full-stack dating platform; implemented secure JWT auth, swipe-matching, & Cloudinary image storage.CI/CD on Render.com; Cypress E2E suite (100% pass) & load-test p95 latency < 150 ms at 200 req/s.	
Intelligent Local News Analytics Platform <i>Python, spaCy, BERTopic, BART, Flask</i>	<i>Apr 2025</i>
<ul style="list-style-type: none">Created an end-to-end NLP pipeline that clusters $\geq 2k$ Seattle news items per day & flags emergent events with F1 0.83.Deployed a Flask + APScheduler dashboard providing 6-hourly updates; cut manual monitoring time by 90% for a pilot newsroom.	

PATENTS & PUBLICATIONS

Battery-Aware Super-Peer and Fountain Coding in Java P2P Systems.

Discover Internet of Things, Oct 2025. DOI: 10.1007/s43926-025-00240-3

LoRA-Tuned Segment Anything Model for Few-Shot Polyp Segmentation in Colonoscopy Images.

Journal of Carcinogenesis, Sep 2025. DOI: 10.64149/J.Carcinog.24.3.372-386

A Method for Disaster-Resilient Digital File Dissemination via Fountain-Coded Broadcast with Super-Peer Election and Sparse Acknowledgement.

Indian Patent Application No. 202511063465 (published 18 July 2025)

A Stress Monitoring System Using Wearable Sensor Data Integrated with an Ensemble Machine-Learning Model.

Indian Patent Application No. 202511044124 (published 23 May 2025)

RELEVANT COURSEWORK

Graduate Courses: Distributed Operating Systems Principles, Analysis of Algorithms, Adv Data Structures, Computer Networks, Software Engineering, Data Science.

Undergraduate Courses: Object-Oriented Programming, Database Systems, Machine Learning, Computational Data Analysis, Big Data Visual Analytics.