

# MRINAL PRAKASH

Full-Stack Software Developer | React, Python & Java Programmer | MERN, AI/ML & Cloud | Freelance & Startup Projects

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## PROFESSIONAL SUMMARY

Results-driven full stack developer with production-grade experience shipping scalable systems—from MERN-stack platforms and RESTful API microservices to Next.js applications with real-time sync. Proven ability to lead Agile teams and architect enterprise-level solutions using system design principles, RBAC, APIsec CI/CD, and AI/ML integration. Open to freelance engagements, startup collaborations, and high-impact internships.

## TECHNICAL SKILLS

<b>Languages</b>	JavaScript (ES6+), Python, Java, C++, TypeScript, HTML5, CSS3
<b>Frontend</b>	React.js, Next.js 16, Vite, Tailwind CSS, Bootstrap, Leaflet.js, Chart.js
<b>Backend</b>	Node.js, Express.js, RESTful APIs, Microservices, Socket.io, Mongoose, System Design
<b>Databases</b>	MongoDB Atlas, SQLite3, PostgreSQL, Firebase, Supabase
<b>Auth &amp; DevOps</b>	Firebase Auth, JWT, RBAC, APIsec, GitHub Actions, Vercel, Render, Agile/Scrum
<b>AI / ML</b>	NumPy, Pandas, Matplotlib, Scikit-learn, NLP, Time Series Analysis
<b>Tools</b>	Git, GitHub, VS Code, Jupyter Notebook, Figma

## FEATURED PROJECTS

### ParadigmShift HRMS—Full-Stack HR Management System

**Stack:** React 18 + Vite, Tailwind CSS, Node.js, Express, MongoDB Atlas, Firebase Auth, JWT, [Socket.io Live](#) • [GitHub](#)

- ▶ Led backend architecture, system design & DevOps for a 6-member Agile team; shipped 2 React portals + shared RESTful API under a unified Vercel monorepo.
- ▶ Engineered multi-layer auth (Firebase + JWT access/refresh tokens + RBAC) securing 4 role tiers across 20+ protected API routes.
- ▶ Built real-time bidirectional sync via Socket.io across 11 event types, eliminating 100% of manual page refreshes.
- ▶ Integrated APIsec CI/CD pipeline scanning for OWASP API Top 10 and BOLA/IDOR vulnerabilities on every push to main.

### AetherFlow Supply Intelligence—Hyper-Enterprise Supply Chain DBMS

**Stack:** Next.js 16 (Turbopack), React 19, SQLite3 (better-sqlite3), Vercel [Live](#) • [GitHub](#)

- ▶ Architected a scalable 17-table relational schema with 3,200+ live records, 4 SQL triggers, and enterprise RBAC (Admin / Analyst) using system design best practices.
- ▶ Built a Neural Stress Simulation engine for what-if demand shock tests (300%+ spikes), identifying brittle supply nodes across the fulfillment network.
- ▶ Solved Vercel ephemeral filesystem constraints via a pre-baked DB template, achieving 1-second cold-start and 100% data availability.

### PolluTrack—Real-Time Air Quality Intelligence

**Stack:** HTML5, CSS3, JS ES6+, Tailwind CSS, Leaflet.js, Chart.js, WAQI API [Live](#) • [GitHub](#)

- ▶ Built a real-time AQI / PM2.5 / PM10 dashboard with GPS auto-location, interactive Leaflet.js maps, and 3-day predictive forecasting for 6,000+ global stations.
- ▶ Developed an AI health advisor engine with dynamic mask/activity alerts, one-click PDF report generation, and push notifications for hazardous AQI thresholds.

## WORK EXPERIENCE

### Full Stack Developer Intern & Campus Ambassador Jun 2025 – Aug 2025

[Musports India \(MUESPORTSINDIA\)](#)

- ▶ Engineered scalable, community-driven esports platforms with real-time microservices features using Supabase, PostgreSQL, TypeScript, and Figma.
- ▶ Drove campus tech outreach as ambassador, growing developer community engagement by 40%+ across 3 departments at KRMU.

### Full Stack Developer Intern Jul 2025 – Aug 2025

[CodeAlpha](#)

- ▶ Shipped 3 responsive, scalable web apps using React.js, Node.js, MongoDB, and Tailwind CSS following Agile/Scrum methodology.
- ▶ Set up GitHub Actions CI/CD pipelines, reducing manual deployment steps by 100% across all delivered projects.

### Machine Learning Intern Apr 2025 – May 2025

[Future Interns](#)

- ▶ Built and validated 5+ predictive ML models using Python, Scikit-learn, and Pandas; delivered data visualizations with 90%+ accuracy on test datasets.

## EDUCATION & CERTIFICATIONS

### B.Tech CSE – KR Mangalam University, Gurugram | Jul 2024 – Jun 2028

AISSEE (XII)—S.T. Mary's Public School, Delhi | 85% | 2024

AISSE (X)—S.T. Mary's Public School, Delhi | 95% | 2022

- ▶ Introduction to Cybersecurity — Cisco | Jul 2025
- ▶ AI for Beginners — HP | Jun 2025
- ▶ Data Science & Analytics — HP | Jun 2025
- ▶ Google Analytics Certification | May 2025
- ▶ IT Fundamentals — Udemy | Nov 2024