

# Mukal Dadhwal

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## EDUCATION

- Guru Tegh Bahadur Institute of Technology (GTBIT), GGSIPU** New Delhi, India  
*Bachelor of Technology - Computer Science; CGPA: 8.5* Aug 2022 – Present  
*Courses: Operating Systems, Data Structures, Analysis Of Algorithms, Artificial Intelligence, Networking, Databases*

## SKILLS SUMMARY

- Languages:** Java, Go, Python, Dart, C
- Frameworks:** Flutter, Vue.js, Express.js
- Tools:** Docker, Git, GitHub Actions, PostgreSQL, MySQL, Postman, Android Studio
- Platforms:** Google Cloud Platform (GCP), Firebase, MongoDB, Arduino, Linux
- Soft Skills:** Leadership, Event Management, Writing, Public Speaking, Quick Learner

## EXPERIENCE

- Almmox** Gurugram, India | Hybrid  
*Backend Engineer (Intern)* Jan 2025 – May 2025
  - Built a scalable AdTech tracking system:** to monitor over 1M monthly events (clicks, impressions, conversions) across 2+ partner websites, leveraging UTM parameters, referral paths, and server-to-server postback tracking, resulting in a 35% increase in attribution accuracy for publisher payouts.
  - Designed and implemented a revenue monitoring framework:** to track real-time earnings for 3+ publishers, reducing payout discrepancies by 40% and improving financial reporting turnaround from 2 days to under 4 hours.
  - Optimized CI/CD pipeline for backend services:** by automating test, build, and deploy stages using GitHub Actions and Docker, streamlining release cycle.
- Heimatverse, Startup** Gurugram, India | Hybrid  
*Flutter Developer (Intern)* Aug 2024 – Dec 2024
  - Developed the MVP for a Smart Home IoT application:** connecting 15+ home appliances via WiFi using MQTT and WebSockets, backed by RESTful APIs for seamless device interaction, which enabled real-time control with sub-200ms latency.
  - Designed and deployed a CI/CD workflow:** using GitHub Actions and Docker to automate build, testing, and deployment processes for the IoT backend, improving deployment efficiency and reducing manual errors to near zero.
- Technical Head, GDSC** GTBIT  
*Student Society (Volunteer Role)* Nov 2024 – May 2025
  - Organized the Google Cloud Facilitator Program at GTBIT:** in partnership with Google Developer Student Clubs, onboarding 100+ students to hands-on GCP training, achieving Tier 3 status and enabling participants to earn cloud certifications and receive exclusive Google-branded swag.
  - Led My team's participation in the 2025 Google Solution Challenge:** as project lead for Proteios, an AI/ML-based protein analysis platform, which placed in the top 105 nationally out of 64,000+ registrations and 3,700+ submissions, earning recognition, perks, and certification from Google.

## PROJECTS

- Krishi Gyan — Smart Farming Solution:** Developed a mobile app for farmers providing personalized crop recommendations based on farm data. Integrated Arduino-based NPK and moisture sensors via Flutter's Bluetooth API for real-time soil monitoring. Contributed to Android frontend and backend Node.js development. **Tech:** Flutter, Node.js, Arduino, NPK Sensors, TensorFlow Aug 2024
- Proteios — Protein Anomaly Detection & Drug Discovery Platform:** Led the development of an AI/ML platform to detect structurally anomalous proteins using unsupervised learning (VAE) and integrated LLMs to extract biological insights from protein databases. Ranked top 105 nationally out of 64,000+ registrations and 3,700+ project submissions in the Google Solution Challenge 2025, earning recognition, perks, and certification from Google Developers. **Tech:** Python, PyTorch, GCP, Streamlit, AlphaFold, Gemini Flash API Mar 2025
- Gauseva App — Stray Cattle Reporting System:** Stray Cattle Reporting System: Created a mobile platform enabling users to report stray cows by uploading images, which are automatically geotagged and routed to NGOs for intervention. Implemented image recognition using Google ML Kit and managed data via Firebase backend. **Tech:** Flutter, Firebase, Python, Google ML Kit Mar 2024
- Chillingq — Dating & Social Networking App:** Redesigned and optimized the front-end and UI/UX of a cross-platform social app, improving user onboarding flow and app responsiveness. Utilized state management via Provider for better performance. **Tech:** Flutter, Figma Sep 2023

## PUBLICATIONS

**Research Paper — Real-Time Soil Analysis Using AI & Mobile Integration:** Co-authored and published in the 2024 IEEE ICECSP Conference, presenting a system that integrates spectroscopy sensors, AI models, and a mobile app to perform real-time soil analysis and crop recommendation for precision agriculture. **Published in:** 2024 First International Conference on Electronics, Communication and Signal Processing (ICECSP) **Tech:** Flutter, Android, Firebase, TensorFlow, Python, Dart Aug 2024