


RISHI AHUJA

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Education

Dr. B R Ambedkar National Institute of Technology Jalandhar

Aug 2024 – Present

Bachelor of Technology in Information Technology — CGPA: 8.34

Jalandhar, Punjab

Research

Retrieval Mechanisms Surpass Long-Context Scaling in Time Series Forecasting | *First Author* **Feb 2026**

- **Accepted at ICLR 2026 (TSALM Workshop) | CORE A***: Lead author on research demonstrating that long-context scaling degrades time-series forecasting by amplifying historical noise.
- Evaluated continuous context architectures (e.g., PatchTST) on the **ETTh1 & ETTh2 benchmark**, identifying an inverse scaling law where a 3,000-step window drops performance by over **68%**.
- Explained **Retrieval-Augmented Forecasting (RAFT)** as a superior alternative, achieving an MSE of **0.379** (vs. 0.647 for long-context) while requiring significantly less computation.

ICFD-31k: Real-Time Conversational Fraud Detection | *First Author* **Jan 2026**

- **Under Review at IJCAI 2026 (AI for Social Good Track)**: Authored a research paper introducing 'ICFD-31k', the first large-scale benchmark for Indian conversational fraud detection.
- Generated and annotated **31,000+ realistic transcripts** across 10 fraud typologies in **English and Hinglish**, validated with a Cohen's Kappa of 0.534.
- Engineered a **Streaming RoBERTa** architecture that achieves a **95.59% F1-score**, enabling real-time fraud intervention with an average latency of **32.2 seconds**.

Experience

Zenbase Technologies (Singapore)

Dec 2025 – Present

Software Engineer (DevOps & Backend)

Remote

- Architected a production-grade DevOps ecosystem, establishing isolated **staging environments** and automated **CI/CD pipelines** for a **Dockerized** monorepo architecture.
- Engineered event-driven backend workflows using asynchronous **callback workers** to process complex webhooks from **Nylas** and **Meta APIs** for real-time AI agent capabilities.
- Orchestrated seamless bi-directional data synchronization with **GoHighLevel (GHL)**, driving the core logic for autonomous lead qualification and outreach pipelines.

iHub - AWaDH (IIT Ropar)

Oct 2025 – Present

Entrepreneur in Residence (EIR)

Rupnagar, Punjab

- Leading the strategic development of **Kisaan Mithraa**, transitioning Agri-Tech research into scalable AI products for the Indian agricultural sector.
- Presented technology roadmaps to a high-level **GOI delegation** including officials from **MeitY** and the **Ministries of Agriculture and Education**.

Anaam.ai (IIT Ropar)

Jun 2025 – Oct 2025

Research Intern - AI Systems (Supervised by Dr. Sudarshan Iyengar)

Rupnagar, Punjab

- Built modular AI pipelines for classification and inference for the 'Sugam' video platform, optimizing ML workflows for large-scale model training.
- Engineered and optimized high-performance computing infrastructure using **NVIDIA H200 & H100 GPUs** to deliver efficient AI services in agriculture.

Stack Wealth (YC S21)

Apr 2025 – May 2025

Intern - Flutter Developer

Remote

- Ranked as the **#2 top contributor** to the 'Athena' application, merging 50+ PRs across feature development and critical performance optimization.
- Spearheaded the development of a user analytics dashboard and secure biometric authentication flows using **Clean Architecture** principles.

Moxie Hawk

Feb 2025 – Mar 2025

Flutter Developer (Contract)

Remote

- Architected a full-stack e-scooter rental application from scratch, implementing **Clean Architecture** to ensure long-term system scalability.
- Engineered core system features including phone OTP authentication, live vehicle tracking via map integration, and QR-based unlocking.

- Developed responsive, pixel-perfect user interfaces for a wellness application using **Next.js**, optimizing UX across mobile and web browsers.
- Collaborated in an agile team to integrate REST APIs for dynamic content delivery, participating in rigorous sprint planning and code reviews.

Projects

OpenLearn | *React, Node.js, Redis, PostgreSQL, Docker, AWS*

- Architected a microservice-oriented LMS serving **500+ users** via 100+ endpoints, featuring an asynchronous Redis-based task queue.
- Established a full DevOps pipeline on **AWS EC2** using Docker for CI/CD, maintaining a consistent **99.8% application uptime**.

FernKit SDK | *C++, WebAssembly, Emscripten, Python*

- Engineered a 0-dependency C++ graphics framework from scratch with an immediate-mode rendering pipeline and custom layout system.
- Developed the **Terra CLI** and associated tools to automate project scaffolding and one-command builds for WebAssembly and X11.

Mess ERP | *Flutter, Firebase, GetX, Hive, Go Router*

- Deployed a comprehensive ERP system for **500+ users**, successfully handling over **150,000 daily read requests** on Firebase.
- Automated college mess workflows including digital billing and QR-based attendance, replacing manual bookkeeping with a role-based dashboard.

Open Source Contributions

APIDash (#1121 - Open, #918 - Open): Engineered Hurl file parsing via Flutter Rust Bridge (FFI) and fixed background media leakage in **IndexedStack** routing using Flutter lifecycle hooks (**TickerMode**).

AppFlowy.IO (#8261 - Merged, #8278 - Open): Resolved rapid-navigation screen flickering via UI-level click throttling and BLoC-level event deduplication, and refactored shortcuts UI layout.

asdf-vm (#2245 - Open): Architected a staged installation pipeline using POSIX atomic renaming in Go to prevent corrupted toolchain states during interrupted downloads (SIGINT/SIGKILL).

Achievements and Extracurricular

- **Winner (AWS & Qyrus Tracks), HackCBS 8.0**: 1st place in 2 tracks; selected for onsite finale (top 400) out of 15,000+ applicants.
- **1st Runner-Up**, Level Supermind Hackathon – Created SoulBuddy.ai, an AI-powered astrological platform among 23000+ participants.
- **2nd Runner-Up** at IEEE PEC × Prajna AI Hackathon (2024) - Developed IPQS, an intelligent document analysis system, recognized for innovative AI implementation among 60+ teams.
- Invited as a **Mentor** for the state-level 'Bit and Build' Hackathon, personally guiding and evaluating **30+ participating teams**.
- Designed and instructed a **14-day intensive Flutter & Firebase Bootcamp**, mentoring undergraduates through full-stack mobile development as a **GDSC Core Member**.
- Authored **11+ in-depth technical articles** on Flutter and Linux, totaling over **4 hours of cumulative read time**, with a blog featured on Hashnode.

Technical Skills

Mobile/Frontend: Flutter, Dart, Riverpod, GetX, BLoC, Tailwind, React.js, Next.js

Backend/Databases: Node.js, Express.js, Redis, Firebase, Appwrite, Prisma, MongoDB, PostgreSQL

Blockchain / Web3: Solidity, Foundry, ethers.js, Web3.js

Systems: C, C++, Python, Rust, Bash

Tools, Infra DevOps: AWS, Docker, CI/CD, Git, GitHub, NGINX, Arch Linux