Arjav Patel

arjav1528@gmail.com | Portfolio | GitHub

Education

Birla Institute of Technology and Science Pilani, Goa Campus — South Goa, India
B.E. (Hons) Electronics and Instrumentation Engineering — *Aug 2023 – May 2027*

Experience

Software Engineering Intern - Nudron IoT Solutions — Aug 2025 – Dec 2025

- Refurbished the UI of an existing Flutter codebase, improving usability and design consistency
- Merged platform-specific functionality into a unified app for iOS, Android, Windows and macOS
- Refactored inefficient widgets and reduced unnecessary rebuilds for improved app performance

Software Engineering Intern - TechStaX — Jan 2026 – March 2026

- Reduced memory leaks in the application, optimized the size of the app by 50%
- Developed real-time chat and video calling with Supabase backend services for seamless end-user communication

Position of Responsibility

App Development Head - Developers' Society BITS Goa — May 2025 – April 2026

- Led a team of 50+ junior developers and 10 senior developers
- Responsible for maintaining 4+ applications used in BITS Goa such as BPGC One, Fest Management Apps etc.
- Co-designed and launched "Intro to Flutter" with CTE for 30+ students and delivered 4 structured assignments

Projects

BITS Goa Fest Management App | **Flutter, Firebase, Node.js** | ***Google Play***

- Developed a fest-wide app to manage events, passes, and schedules for Waves, Quark, and Spree
- Handled INR 10M+ in payments with a secure integrated payment interface

BITS Course-Registration Portal | **Flutter, NextJS, Supabase, AWS Rekognition, Brevo SMTP** | ***GitHub***

- Wrote Cloud Functions for passcode generation, face detection using AWS, and email-handling using Brevo
- Implemented full-featured admin portal with 8 pages, 15-table Postgres schema, Row-Level Securities

Student Welfare Division - SWD Store | **Python, Django, MongoDB** | ***GitHub***

- Developed SWD Store, an all-in-one platform for BITS Goa clubs and departments to sell merchandise to students
- Built with Python (Django), MongoDB, and HTML/CSS, featuring a user-friendly UI and secure DB integration

Night Vigil - Goa Police Hackathon | **Flutter, ReactJS, FastAPI, FaceNet, AWS** | ***GitHub***

- Built a patrol verification platform with geofence-based check-ins, facial recognition validation, and automated duty compliance reporting in a 48-hour hackathon
- Added continuous location tracking and alerting to prevent geofence violations and strengthen on-ground accountability

Open Source Contributions

CommitCut | **Next.js, TypeScript, GitHub API** | ***GitHub***

- Built a full-stack web app that distributes hackathon prize money fairly via a weighted scoring algorithm over GitHub contributions (lines added, deleted, commits)
- Implemented client-side rescoring with configurable weights and contributor exclusions via React useMemo, avoiding redundant API round-trips
- Hardened API against request-flood DoS, Infinity/NaN prize injection, and non-HTTPS URLs; designed shareable result URLs encoding all analysis parameters

Apache Software Foundation

- Contributed 15+ merged PRs across **Apache Airflow**, **Apache NuttX**, and **NuttX-Apps**
- Authored C23 `stdbit.h` standard library support for NuttX with a generic implementation and Kconfig integration, and hardened the CMake build with checkpatch breaking-change checks
- Strengthened Airflow reliability — fixed Keycloak HTTPS redirects, added Cloud Run transport config, JWT secret checksums, and custom `volumeClaimTemplates` for persistent logging

Flutter Chaos Toolkit

- Developed and published **flutter_chaos_toolkit**, a reusable Flutter toolkit cutting boilerplate across apps
- Built an FPS display widget with frame-by-frame tracking to surface rendering jank
- Published on pub.dev with full API documentation, usage examples, and Dart best practices