

Bhanu Nagpure

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EDUCATION

G H Raisoni College of Engineering

B.Tech in Computer Science & Engineering | CGPA: 8.7 / 10.0

Dec 2021 – Jun 2025

Nagpur, India

TECHNICAL SKILLS

Languages: Java (primary), Kotlin, Python, C++, SQL, JavaScript

Data Structures & Algorithms: Arrays, Linked Lists, Trees, Graphs, Hash Maps, Heaps, Dynamic Programming, Sorting & Searching, Time/Space complexity analysis

Backend & Systems: REST APIs, Firebase (Firestore, Auth, Storage, Crashlytics), SQL/NoSQL databases, async pipelines, offline-first sync, event-driven architecture

Concurrency: Java threading & concurrency primitives, Kotlin Coroutines & Flow, WorkManager (background scheduling, retry logic, constraints)

Architecture & Design: Clean Architecture, MVVM/MVI, SOLID principles, Dependency Injection (Hilt), Repository pattern, unit-testable component design

Tools & DevOps: Git, CI/CD, Gradle (Kotlin DSL), Google Cloud Platform, Linux, Android Studio

PROFESSIONAL EXPERIENCE

Devanshu Studios — Founder & Lead Engineer

Aug 2025 – Present

Independent

Remote

- Took **complete ownership** of designing, building, and shipping **PyMaster** ([Play Store](#)) — 50k+ LOC production platform with **Clean Architecture**, multi-env build system (dev/staging/prod), Riverpod 2.0, and Gemini AI Tutor.
- Engineered an **offline-first async sync engine**: event-driven queue persists user progress via Hive, batch-uploads to Firebase on reconnect — **zero data loss** under intermittent connectivity with deterministic conflict resolution.
- Architected **Chakuli — Offline AI Chatbot** (Play Store beta, 12+ testers): on-device LLM inference (Gemma 2/3, Phi 3.5 Mini) via **LiteRT-LM** with zero cloud calls; WorkManager handles multi-GB model downloads with exponential backoff and foreground notifications.
- Designed **unit-testable, maintainable components**: Repository pattern + Hilt DI enabling independent testing of data, domain, and presentation layers; Proto DataStore for type-safe persistence, EncryptedSharedPreferences for secure key storage.
- Owned full **production lifecycle**: CI/CD pipeline, Play Console publishing, A/B testing, Crashlytics incident response, RevenueCat billing stack (subscriptions + IAP), AdMob native ad mediation.

Athabasca University — Globalink Research Intern (Mitacs)

Apr 2024 – Oct 2024

Machine Learning & Software Development

Edmonton, AB, Canada

- Built a text ideology classifier in **Java/Python** using **BERT/Transformers** achieving **95% prediction accuracy**; deployed as a REST-backed web service for researcher validation.
- Led sole development of a **cross-platform (iOS, Android, Web)** field-trip app — Firebase Auth/Storage backend, OpenStreetMaps integration; presented at **TRESL Lab International Symposium**, Canada (Jul 2024).

BETIC-GHRCE — Software Developer Intern

Oct 2022 – May 2024

Nagpur, India

- Built a production **Java/Kotlin** diagnostic app using MediaPipe FaceMesh — **60%** accuracy improvement, **30%** inference speedup through camera pipeline optimisation.
- Contributed to a **granted Indian patent**: “*Smart Chairside TMJ Examination and Muscle Activity Detector Tool*” (Pub. No. 202321022476 — **Granted**).

Wikimedia Foundation — Open Source Contributor

Feb 2025 – Present

Scribe-Android (Kotlin)

Remote

- Implemented tablet keyboard layouts for 7+ languages in Kotlin; refactored core **KeyHandler** module to reduce coupling and improve testability; resolved critical UI bugs.

IIT Bombay — Fellowship, Design for Health

Mar 2022 – Oct 2022

Mumbai, India

- Led team to prototype a xerostomia diagnostic device — reduced assessment time by **80%**. Software layer built with MIT App Inventor + IoT hardware; presented at IIT Bombay.

KEY PROJECTS

PyMaster — Learn Python / *Dart, Kotlin, Firebase, Riverpod 2.0, Gemini AI, RevenueCat* 2025 – Present

- **Live on Google Play.** 1,200+ exercises, gamified leagues, Gemini AI Tutor, offline-first sync — 50k+ LOC, 99.5% crash-free sessions. Multi-env Flavors, go_router, RevenueCat IAP, AdMob mediation, Firebase Sign-In.

Chakuli — Offline AI Chatbot / *Kotlin, Java, LiteRT-LM, Jetpack Compose, WorkManager* 2025 – Present

- **Closed beta on Play Store (12+ testers).** Runs Gemma 2/3, Phi 3.5 Mini, SmolLM entirely on-device — zero cloud inference. Jetpack Compose UI, Hilt DI, CameraX, Agent Skills, encrypted key storage.

V-Safe-Anywhere — Women's Safety System / *Flutter, Java, Firebase, IoT, Google Cloud* 2022 – 2024

- IoT wearable + app: panic button triggers **real-time GPS broadcast** via Firebase — **98% uptime**. Published by [IGI Global](#).

OCanPredict — OSMF Screening App / *Java, Kotlin, MediaPipe FaceMesh, Firebase* 2022 – 2023

- Real-time OSMF facial screening via MediaPipe FaceMesh — **40%** diagnostic efficiency gain. Multiple national awards; contributed to granted patent.

Autonomous Garbage Collection Robot / *Python, YOLOv5, OpenCV, NumPy, IoT* 2023

- YOLOv5 computer vision pipeline for autonomous waste detection — **60%** reduction in manual effort. Published at [ACM ICACS 2024, Hong Kong](#).

PUBLICATIONS, PATENTS & CONFERENCES

Journal: “V-Safe-Anywhere: Empowering Women's Safety with Wearable AI and IoT.” *IGI Global*, Mar 2024. [\[Link\]](#)

Conference: “Autonomous Floating Garbage Collection Device using Computer Vision and Robotics.” *8th ICACS 2024, ACM, Hong Kong*, Oct 2024. [\[Link\]](#)

Conference: “Development of a Mobile Field Trip Application.” *3rd Annual TRESL Lab International Symposium, Athabasca, Canada*, Jul 2024.

Patent (Granted): “*Smart Chairside TMJ Examination and Muscle Activity Detector Tool*.” Office of the Controller General of Patents, India. (Pub. No. 202321022476 — **Granted**.) **Patent (Pending):** “*AI-Based Portable Device for Dental Disease Detection*.” DPIIT, Govt. of India. (App. No. 202421006731, Published Aug 2025.)

AWARDS & RECOGNITION

3rd Place Avishkar 2024 | **Runner-up** DIPEX 2023 | **Runner-up** SHRISTI 2023 | **Grant Awardee** BIREC E-YUVA Rs. 10L seed funding | **Winner** MEDHA 2022 | **Winner** MEDIC-2022 | Multiple national awards for OCanPredict.

TECHNICAL WRITING & OPEN SOURCE

Medium (medium.com/@bhanu.r.nagpure.8082): “*I Built a Python Learning App From a Hospital Bed*” (Jun 2026); “*I Didn't Stress Test My Native Ads. My App Paid the Price*” (Apr 2026); “*Why I Stopped Building Apps and Started Building an Engine in Flutter*” (Mar 2026).

Open Source: Wikimedia Foundation / Scribe-Android (Kotlin) — tablet keyboard layouts for 7+ languages, UI bug fixes, KeyHandler refactor.