

KRISH GOYAL

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B.Tech. CSE, Sharda University (2023–2027)
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Summary

Analytical and results-driven Software Engineer with expertise across the full Software Development Lifecycle (SDLC).specializing in Back-End development using Java, Spring Boot, and Microservices, complemented by Front-End proficiency in React. Experienced in architecting scalable systems, maintaining well-documented workflows in Notion, and design practices with Figma for UI/UX prototyping and product visualization.

Projects

CubeMouse: Smartphone-to-PC Wireless Trackpad

Rust, WebSockets, Tokio, Kotlin, Flutter — github.com/KrishGoya1/cubemouse

- Engineered a low-latency cross-device system transforming smartphones into PC trackpads via touchscreen input, using a custom binary protocol for real-time cursor control, scrolls, and clicks.
- Implemented secure QR code-based pairing and async WebSocket connections with Tokio, reducing transmission overhead by 70% compared to JSON via compact opcodes (e.g., MOVE, SCROLL).
- Designed modular Rust architecture for protocol parsing, event simulation (enigo/mouse-rs), and OS integration, with Android (Kotlin) and iOS (Flutter) clients for broad compatibility.

Predictive Analytics for Retail Optimization

Python, TensorFlow, Spring Boot, PostgreSQL — github.com/KrishGoya1/PBL-Sales-Prediction/tree/master

- Built machine learning models in TensorFlow achieving 92% accuracy in sales forecasting and demand optimization for retail scenarios.
- Integrated trained models into a Spring Boot REST API for real-time predictive insights and business decision automation.
- Engineered a robust PostgreSQL-based data pipeline for continuous model training, validation, and inference.

Markme: NFC-Based Attendance Tracking Suite

Flutter, Supabase, Microservices — github.com/KrishGoya1/markmeSupabase

- Architected a microservice-based NFC attendance management system with real-time sync and offline-first capabilities for 1,200+ users.
- Implemented secure authentication, horizontal scaling, and fault-tolerance strategies for production-grade reliability.
- End-to-end ownership of system design, cloud deployment, and iterative performance optimization.

Procedural 3D Open-Pit Mine Generator

Python, Blender API, Procedural Generation, FBM — github.com/KrishGoya1/open-pit-mine-terrain-generator/tree/master

- Developed a procedural terrain generation engine to synthesize realistic 3D open-pit mines, overburden dumps, and plateaus inside Blender using Python APIs.
- Designed modular algorithms for bench formation, spiral road generation, and multi-pit blending using Fractal Brownian Motion (FBM) for natural terrain variation.
- Implemented vertex coloring, mesh optimization, and erosion simulation to enhance geological realism and visual fidelity.

Technical Skills

Languages: Java, C++, Python, Dart, JavaScript, TypeScript, SQL, HTML, CSS

Frameworks & Libraries: Spring Boot, React, Node.js, Express.js, TensorFlow, Scikit-learn, Pandas, NumPy

Databases: PostgreSQL, MySQL, MongoDB, Firebase, Supabase

DevOps & Tools: GitHub, Docker, Figma, Notion

Core Competencies: Data Structures & Algorithms, Procedural Generation, 3D Graphics Programming, API Design

Methodologies: Agile (Scrum/Kanban), Test-Driven Development (TDD)