

# Shovin Jeson Dsouza

shovindsouza27@gmail.com | +91 6363331566 | github.com/PlatypusPus | linkedin.com/in/shovindsouza | Mangalore, India

## Summary

Computer Science and Data Science undergraduate with hands-on experience in full-stack development, backend systems, and AI/LLM integration. Proven track record delivering production-quality software, contributing to international open-source projects, and leading large-scale technical events. Seeking software engineering, research, or product roles leveraging expertise in real-time systems, retrieval-augmented generation, and scalable backend architecture.

## Education

### St Joseph Engineering College

2023 – 2027

B.Tech in Computer Science and Data Science | Mangalore, India

### St. Aloysius Pre-University College

May 2023

Pre-University Course (PCMC) | Mangalore, India

## Technical Skills

- **Programming Languages:** C, Python, JavaScript, C#, Bash
- **Frameworks & Libraries:** React, Node.js, Express.js, LangChain, Socket.io, Raylib
- **Databases:** MongoDB, PostgreSQL
- **Tools & Platforms:** Git, Linux, Docker, Blender, MAVLink
- **Concepts:** RESTful APIs, WebSockets, Retrieval-Augmented Generation (RAG), Large Language Models (LLMs), Real-time Systems, Open-source Development

## Projects

### ArduPilot Mission Planner – Open Source Contribution

2025

C#, .NET, MAVLink, Systems Programming

- Collaborated with **Kansas State University (USA)** on the open-source ArduPilot Mission Planner, a ground control station used by thousands of drone operators globally.
- Engineered unit-consistent telemetry and waypoint processing across altitude, speed, temperature, and voltage, eliminating critical unit mismatch bugs.
- Architected user-configurable unit handling maintaining full MAVLink protocol compliance (m/s backend), improving cross-region usability.
- Refactored gauge-cluster UI logic and validated all features through simulation and live hardware testing.

### SchizoChat – Real-time Messaging Platform

2024

MERN Stack, Socket.io, WebSockets

- Developed a full-stack real-time messaging platform for concurrent multi-user communication using WebSockets via Socket.io.
- Designed a scalable RESTful backend with Node.js and MongoDB for persistent chat history and session management.
- Optimised message delivery pipeline for low-latency real-time updates across multiple simultaneous clients.
- Secured **1st Place at Tech Winter Break Hackathon** (Google Developer Group, St Joseph Engineering College).

### Retrieval-Augmented Generation (RAG) System

2024

Python, LangChain, LLaMA 2.0, Vector Databases

- Built a RAG pipeline integrating LLaMA 2.0 with external knowledge bases to produce grounded, accurate LLM responses.
- Implemented document ingestion, vector embedding, and context injection, measurably reducing hallucination in generated outputs.
- Designed a modular, extensible pipeline supporting multiple heterogeneous data sources and LLM backends.

## Leadership & Positions of Responsibility

- **Vice President** – The Sceptix Club, St Joseph Engineering College 2025 – Present
- **Lead Organiser** – **HackToFuture 4.0**: Planned and executed a national-level hackathon with **3,000+ registrations** (The Sceptix Club, SJEC)
- **Single Point of Contact (SPOC)** – Smart India Hackathon (SIH), SJEC: Coordinated **180+ participants** across problem statements
- **Secretary, IT Club** – St. Aloysius High School 2019 – 2021

## Achievements & Activities

- **1st Place** – Tech Winter Break Hackathon, Google Developer Group (GDG), St Joseph Engineering College
- **Open-Source Contributor** – ArduPilot Mission Planner, international collaboration with Kansas State University, USA
- **Technical Speaker** – FOSS Mangalore: Talk on self-hosted version control with Gitea at Niveus Solutions (50+ attendees)
- **Organiser** – CS50x Puzzle Day (70+ participants) | **Workshop Host** – Blender Basics (50+ students)