SESHASAI NAGADEVARA
Senior Flutter Developer & Generative AI Engineer

Andhra Pradesh, India | +91 7013869169 | nvsseshasai@gmail.com

LinkedIn: linkedin.com/in/seshasai-subrahmanyam-48b2512b4

GitHub: github.com/Seshasai-Subrahmanyam

Medium: medium.com/@nvsseshasai

PROFESSIONAL SUMMARY

Senior Software Engineer with **7 years** of hands-on experience specialising in full-stack mobile architecture and generative AI engineering. Expert in designing and deploying **secure, scalable Flutter applications** using SOLID principles and advanced state management patterns. Proven track record building **autonomous AI agents, multi-agent systems(MAS), and LLM-powered workflows**. Demonstrated leadership in architecting next-generation fintech solutions integrating cutting-edge AI technologies, including document processing, face recognition, and intelligent automation systems.

★ PROFESSIONAL EXPERIENCE

Lead Flutter App Developer & Generative AI Engineer | TRUEID | 2023 – Present.

AeonPay Mobile Banking App — Core Banking Platform

Architected and developed the AeonPay mobile banking application from inception, implementing a highly scalable, secure architecture based on SOLID principles and BLoC state management, serving as lead architect for the complete platform.

Engineered an AI-powered digital onboarding flow enabling customer registration via document and face capture with passive liveness detection, OCR data extraction, and facial recognition matching, **reducing onboarding time by 65%** and improving conversion rates.

Tech: Flutter | Dart | BLoC | Go_Router | Dio | ECDH | HMAC | AES-GCM | Firebase Crashlytics | GRPC

Implemented end-to-end security protocols, including ECDH key exchange, HMAC key derivation, and AES-GCM encryption, to protect sensitive financial data across all user interactions.

Architected gRPC-based app-to-server API communication for high-performance image transfer and real-time data synchronisation in banking workflows.

Innovated development lifecycle by creating an autonomous AI multi-agent system(LightHouse) with A2A protocol and MCP servers to automatically generate code documentation and security checks, **increasing developer productivity by 40%**.

AI-Powered Onboarding MCP Server — Autonomous AI Backend

Developed a secure backend server using Modal Context Protocol (MCP) to orchestrate complex digital onboarding workflows with integrated AI services (Document OCR, Face Liveness, Face Match) callable by Claude 4.5 LLM.

Tech: Python | Modal Context Protocol (MCP) | FastMCP | Claude 4.5 | Google ADK | Context Engineering

EDIT Digital Onboarding Flutter App — Customer-Facing Identity Platform

Built a streamlined 2-step digital onboarding app, significantly reducing customer friction and abandonment rates.

Implemented advanced, multi-layered security checks, including document authenticity (photocopy, screen replay, portrait substitution) and comprehensive face liveness detection (active and passive).

Tech: Flutter | Dart | BLoC | Dio | Rive | Platform Channels

Onboarding Federated Flutter Plugin — Cross-Platform Native Integration

- Engineered and published a private federated Flutter plugin for native document and face capture components, ensuring consistent UI and functionality across the company's app ecosystem.

- Architected native Android modules using MVVM in Kotlin, respectively, for a clean, maintainable, scalable codebase.

- **Tech:** Flutter | Dart | Kotlin (Android) | MVVM Architecture

DEEP LEARNING & GENERATIVE AI PROJECTS.

Deepfake Face Detection AI Agent — Multi-Stage Detection System

- **Tech:** Python | OpenAI Agent SDK | LangChain | VLM | Fine-Tuning | OpenCV

Trained and fine-tuned a custom Vision Language Model (VLM) on a large-scale dataset, achieving **89% validation accuracy** for deepfake detection. Developed a multi-stage detection pipeline combining OpenCV artifact detection with VLM processing and OpenAI verification for superior accuracy. Built an autonomous agent using OpenAI Agent SDK and LangChain, orchestrating the entire detection workflow.

Document Type Identification API — YOLO v11 Classification

- **Tech:** Python | YOLO v11 | OpenCV | Label Studio | Google Colab

Trained YOLO v11 object detection model to identify and classify sensitive government documents (passports, national IDs, proof-of-address), achieving **95% accuracy**. Managed end-to-end ML lifecycle from data annotation using Label Studio through GPU-accelerated training on Google Colab.

Arabic-English Transliteration Agent — LLM-Powered Language Service

- **Tech:** Python | FastAPI | LangChain | OpenAI | Prompt Engineering

Built and deployed a FastAPI endpoint for a high-throughput transliteration service using advanced prompt engineering with the OpenAI GPT-4o-mini model. Engineered sophisticated Chain-of-Thought (CoT) prompts ensuring linguistic accuracy and context awareness in multilingual translation workflows.

Safe Weapon Use Detection — Context-Aware Safety System

- **Tech:** Python | OpenCV | YOLO | Pose Estimation

Developed a deep learning model combining object detection (handgun identification) with pose estimation to determine weapon safety context. Created a real-time alert system analyzing body posture relative to weapon positioning for enhanced safety monitoring in controlled environments.

SmartFace Attendance Platform — Multi-Stream Real-Time Recognition

- **Tech:** Python | Deep Learning | Computer Vision

Led team development of an AI-based attendance system processing multiple concurrent video streams for real-time person identification and verification with unknown person flagging across multi-camera feeds.

Software Engineer | Kellton Pvt Ltd | 2022 – 2023.

Canara HSBC Insurance Application — Cross-Platform Insurance Platform

- Engineered core features for the Canara HSBC Insurance application across mobile and web platforms using a single Flutter codebase, ensuring cross-platform consistency and reducing maintenance overhead.

- Architected application state management using Getx framework with efficient navigation patterns and business logic organization for complex insurance workflows.

- Developed and maintained internal Flutter component libraries, standardizing UI/UX patterns, promoting code reuse, and **reducing development time by 30%**.

- **Tech:** Flutter | Dart | Getx | Firebase

Software Engineer | Snapwork Technologies Pvt Ltd | 2021 – 2022.

HDFC Securities Mobile Application — High-Traffic Trading Platform

Developed and maintained key features for the high-traffic HDFC Securities trading application serving millions of daily active users, ensuring system stability and performance.

Implemented BLoC state management framework handling complex financial application states and trading business logic with predictable, testable architecture.

- **Tech:** Flutter | Dart | BLoC | Flutter Flow

Flutter Developer & Founding Member | Imagtorel Technologies Pvt Ltd | 2018 – 2021.

- Operated as a full-time freelance developer and core founding member, managing complete project lifecycles from concept through deployment for diverse client portfolios.

- **Tech:** Flutter | Dart | Firebase

Software Engineer Intern | Juspay Technologies Pvt Ltd | 2017 – 2018.

BHIM UPI Application — National Digital Payment Platform

- Contributed to core development of BHIM UPI, India's national digital payment platform, assisting with feature development and frontend implementation in a fast-paced fintech environment.

PERSONAL & OPEN-SOURCE PROJECTS

Apple Satellite Mobile app - A companion Android app for iPhone devices

- **Tech**: Flutter | Firebase | Isolate | Local Notifications | BLE

Developed and published an Android application that uses Bluetooth Low Energy (BLE) to allow iPhone users to connect to a separate Android device. This connection enables them to access all their iPhone notifications and calls on the paired Android device, significantly improving convenience and safety, especially when riding a motorcycle, by providing uninterrupted viewing of essential alerts.

Light House - Developed a Multi-Agent System for Code Analysis:

Tech: Flutter | Google ADK | A2A | Python

Implemented a sophisticated system utilising Google ADK, A2A, and MCP protocols to perform comprehensive code base analysis, including documentation generation, security assessment, architecture extraction, and best practices recommendation.

LinkedIn Content Automation Agent — Multi-Step Workflow Orchestration

- **Tech:** n8n | JavaScript | LLM APIs | Railway

Developed an autonomous multi-step workflow agent (certified n8n Level 2 Flowgrammer) managing the complete content lifecycle from ideation to LinkedIn posting. Engineered workflow fetching topics from Google Sheets, passing to LLM with structured output parsing, integrated secondary LLM for image generation, automated Google Sheet updates, and LinkedIn posting.

Scaffolder – Flutter Project Automation Tool — Desktop Developer Tool

- **Tech:** Flutter | Dart | BLoC

Developed a cross-platform (Windows/macOS) desktop application providing a GUI for automating Flutter project creation, **reducing setup time by 80%**. Implemented application logic using BLoC state management with Dart process commands for system-level operations.

- **URL: https://scaffolder-app.web.app/**

AI Timesheet Telegram Agent — Multilingual Intent Parser

- **Tech:** Python | LangChain | Claude LLM | Telegram Bot API

Built a conversational AI agent that parses unstructured, multilingual natural language (including Telugu) into structured, API-ready JSON. Implemented LangChain and Claude-powered Telegram bot with LLM tool-calling for reliable intent capture and timesheet API integration.

Construction Blueprint Analyser — Multimodal Generative AI App

- **Tech:** GenKit (Flutter) | Flutter | Dart | Prompt Engineering

Built a multimodal Flutter application enabling blueprint image analysis with Vastu Shastra-based improvement suggestions using advanced prompt engineering. Integrated GenKit for Flutter, enabling structured natural-language output generation with actionable recommendations.

AI Virtual Indian Music Instruments — Real-Time Gesture Recognition

- **Tech:** Python | MediaPipe | OpenCV

Developed a real-time computer vision application that translates hand and finger gestures into traditional Indian instrument music (Tabla, Veena). Engineered MediaPipe-based gesture recognition mapping specific finger angles to instrument sounds, creating an interactive virtual playing experience.

Foundational Large Language Model — Transformer Architecture Implementation

- **Tech:** Python | Deep Learning | Transformer Architecture

Implemented Transformer architecture from scratch, demonstrating deep foundational understanding of LLM core principles. Engineered a complete encoder-decoder pipeline with a functional self-attention mechanism for sequence dependency handling.

IoT Rocket Ground Station — Hardware-in-the-Loop Control

- **Tech:** IoT | ESP8266 | Bluetooth | Flutter

Developed a mobile ground station application sending launch commands via Bluetooth connectivity. Programmed an ESP8266 microcontroller for signal reception and physical device actuation, demonstrating hardware-in-the-loop control.

TECHNICAL SKILLS

Generative AI & LLM Engineering
Generative AI | LangChain | Google Agent Development Kit (ADK) | OpenAI Agent SDK | GenKit | n8n | Modal Context Protocol (MCP) | FastMCP | Prompt Engineering | Chain-of-Thought | Tool Calling | Fine-Tuning | Quantization | Prompt Engineering | Make.com | A2A protocol

Flutter & Mobile Development - Flutter | Dart | Cross-Platform Development (iOS, Android, Web, Desktop) | BLoC | Getx | SOLID Principles | MVVM Architecture | Platform Channels | Federated Plugins | Rive | Flutter Flow | Flutter Secure Storage | Go_Router | Dio

Computer Vision & Deep Learning

Deep Learning | OpenCV | YOLO v11 | Vision Language Models | Object Detection | Pose Estimation

Backend & APIs

Python | FastAPI | REST APIs | gRPC | Telegram Bot API | Firebase | Postman

Security & Encryption

ECDH Key Exchange | HMAC Key Derivation | AES-GCM Encryption | OAuth2 | Secure Storage

AI Development Environments

Cursor | Void | Firebase AI Studio | Google Colab | Anti-Gravity | WARP CLI

PROFESSIONAL CERTIFICATIONS & CREDENTIALS

- **Project ASTRA - AI Navigation Assistant for DeafBlind | Flutter, Cactus SDK, On-Device AI** — Developed a 100% offline mobile app using dual AI models (LFM2-VL for vision, Qwen3 for tool calling) that analyses camera recordings and provides real-time environmental awareness through Morse code haptics, TTS voice guidance, and hardware volume button control. Built for **Cactus X Nothing X HuggingFace Hackathon** with multi-frame video analysis to detect moving hazards and a local agent system for intelligent decision-making.

- **Google-Kaggle Agents Intensive Capstone Project** — earned the 5-Day AI Agents Intensive Course with Google Badge and capstone certificate.

- **n8n Certified Level 2 Flowgrammer** — Advanced automation and workflow engineering, Hands-on experience with industry-leading AI platforms (Google ADK, OpenAI, Claude, Anthropic)

- **PUBLISHED APPLICATIONS**

- **Apple Satellite Application** — App Store | A companion application for iOS mobile devices as a notifications/calls mirroring application.

- **Scaffolder desktop Application** — Published using Firebase hosting at https://scaffolder-app.web.app/ . This app is used to create Flutter projects using a GUI instead of using the command line or Android Studio.

- **Canara HSBC Insurance Application** — App Store & Play Store | Cross-platform insurance serving thousands of active users

- **HDFC Invest Right** — App Store & Play Store | Investment and portfolio management application

- **EDUCATION**

PRAGATI ENGINEERING COLLEGE (2018)

Bachelor of Technology in Computer Science and Engineering

Passing percentage: 80.54 %

Achievements:

- Winner of state level cyber security hackathon.
- Finalist of Smart India Hackathon.