

Keerthana Murugesan

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Summary

Python Developer | AI Engineer with 4+ years of experience building and delivering production-ready software for business and enterprise use cases. I specialize in Python backend development, AI agents, LLM integrations, ERPNext customization, REST APIs, and business automation.

Experienced in taking projects from requirements and architecture through development, API integration, deployment, and ongoing improvements. Strong hands-on experience with Django, FastAPI, Frappe/ERPNext, AWS, PostgreSQL, Docker, RAG, and multi-agent systems.

Technologies & Tools

- **Languages & Frameworks:** Python, JavaScript, Django, FastAPI, Frappe, Angular, Numpy, Pandas, Langchain, Microsoft Agent Framework, Pytorch, transformers, Electron, React.
- **Database Management:** PostgreSQL, SQL MariaDB, MongoDB, MySQL, SQLite
- **Cloud Services & Orchestration tools:** AWS (Lambda, EC2, S3, API Gateway, SQS, SNS), Docker.
- **Version Control System:** Git, Github, Bitbucket
- **Development Tools:** Visual Studio, PyCharm, windsurf, cursor
- **AI Tools & Assistants:** Claude Code, CODEX, GitHub Copilot
- **Project Management Tools:** JIRA, Youtrack and Trello
- **Operating Systems:** Ubuntu 20+, Windows

Education

Meenakshi College of Engineering

Bachelor of Engineering in Computer Science

Chennai, TN, India Aug 2017

– May 2021

Experience

Soft Suave Technologies, Executive Software Engineer

Chennai, TN, India Mar 2022

– May 2025

- Built and delivered backend and full-stack applications using Django, FastAPI, Angular, and ERPNext.
- Developed custom ERPNext modules, workflows, reports, integrations, and REST APIs for business requirements.
- Integrated LLM APIs and implemented RAG-based solutions for intelligent data retrieval and automation.
- Deployed and maintained applications using AWS services including EC2, S3, Lambda, API Gateway, SQS, and SNS.

Orion Innovation, Executive Software Engineer

Chennai, TN, India Jun 2025

– Feb 2026

- Designed and developed AI agent Proofs of Concept for enterprise use cases using the Microsoft Agent Framework and Python.
- Built backend and full-stack applications using FastAPI and FastMCP, with a focus on integrating AI agents with enterprise workflows and services.
- Designed agent creation workflows covering multi-agent orchestration, task coordination, and agent lifecycle management.
- Implemented and evaluated observability approaches including logging, tracing, and monitoring for LLM-based agent workflows.

- Evaluated agent communication, retrieval strategies, concurrent execution, and workflow reliability to identify practical approaches for production AI systems.

Valarchi, Independent Software Developer

Chennai, TN, India Feb 2026

– Present

- Independently designed, developed, tested, and shipped a native Windows desktop application using Electron and React 18, owning the complete product lifecycle from architecture to production release.
- Architected the application with multi-window management, background timer processing, and SQLite-based local persistence, including schema migration support.
- Implemented a config-driven progression system and local data management to provide an extensible and reliable user experience.
- Managed the complete release process, including application packaging, installer creation, production builds, and distribution through the Microsoft Store.

Projects

KPMG – Intelligent Agent Orchestration (*Python, Microsoft Agent Framework, LLMs, RAG, Multi-Agent Systems, Observability*)

- Designed and developed multiple Proofs of Concept using the Microsoft Agent Framework (MAF) to evaluate AI agent architectures for enterprise automation and intelligent workflows.
- Built POCs supporting the migration of KPMG's existing Clara AI solution from a .NET-based architecture toward a Python-based agent framework, evaluating scalability and extensibility.
- Designed and implemented agent workflows covering agent creation, multi-agent orchestration, task coordination, retrieval, and lifecycle management.
- Evaluated agent performance, concurrent execution, communication patterns, and observability approaches including logging, tracing, and monitoring.
- Presented POC results, technical findings, and implementation recommendations to stakeholders and clients to support AI architecture and adoption decisions.

ERPNext (*Python, Frappe, Jinja, JavaScript, MariaDB, NumPy, Pandas, LLM, Generative Vision Models*)

- Customized and extended ERPNext across Accounting, HR, Sales, and Inventory modules, including custom DocTypes, workflows, reports, and business-specific functionality.
- Developed custom reports and data-processing solutions using Python, NumPy, and Pandas to support business reporting and operational workflows.
- Integrated ERPNext with external services including email, SMS, biometric devices, GeoServer, and external databases to support end-to-end business workflows.
- Developed and optimized ERPNext features while maintaining customizations separately from core functionality for easier maintenance and future upgrades.
- Developed a Proof of Concept using Retrieval-Augmented Generation (RAG) and LLMs for intelligent data retrieval and automation within ERP systems.

Parking Hero (*Python, Django, PostgreSQL, Celery, Sentry, Twilio, Sendgrid, PyTest, AWS EC2 & S3*)

- Built a vehicle security and parking management platform using Django, enabling vehicle owners to receive alerts for potential threats and expiring parking sessions through QR-based workflows.
- Designed and developed secure, scalable REST APIs with authentication and PostgreSQL-based data models for managing users, vehicles, and parking-related information.
- Implemented automated background workflows using Celery and Celerybeat for time-sensitive alerts, notifications, and scheduled processing.
- Integrated Twilio and SendGrid to deliver automated SMS and email notifications, and developed administrative reports using Pandas for operational insights.
- Deployed and supported the application using AWS EC2 and S3, with automated testing using PyTest and application monitoring through Sentry.

Teamicate (*Python, Django, React, Postgresql, Celery, Cron, S3, EC2*)

- Developed an automated meeting scheduling system using Python, Django, and Celery, including an auto-pick algorithm that matches meeting times based on participant availability.
- Integrated Zoom, Google Meet, Google Calendar, and Apple Calendar to support video conferencing, calendar synchronization, and automated scheduling workflows.
- Built automated meeting confirmation and finalization workflows, reducing manual coordination and improving the overall scheduling process.
- Developed and tested backend workflows across multiple scheduling scenarios to ensure reliable meeting creation, synchronization, and notification handling.
- Deployed and supported the application using AWS EC2 and S3 for application hosting and cloud storage.

Enigma (*Angular, Docker, Google Cloud Platform (GCP) services (Cloud Run, Pub/Sub, BigQuery, Firestore)*)

- Developed a cloud-based security monitoring platform for threat detection, anomaly identification, and real-time event monitoring.
- Designed and implemented an event-driven cloud architecture using Docker, Google Cloud Run, Pub/Sub, BigQuery, and Firestore to process and manage security events.
- Built an Angular dashboard for visualizing AI insights, security events, anomaly detection results, and monitoring metrics.
- Developed reporting and monitoring workflows to help users analyze detected anomalies and respond to potential security threats.

Valarchi (*Electron, React 18, SQLite, Node.js, JavaScript, Desktop App, Windows*)

- Designed and developed a native Windows desktop focus timer application using Electron, React 18, and JavaScript, owning the product from architecture and UI/UX design through production release.
- Architected the desktop application with multi-window management, background timer processing, and SQLite-based local data persistence.
- Engineered a configuration-driven progression algorithm across 10 levels, making work/break durations and cycle thresholds fully data-driven and extensible without modifying core application logic.
- Implemented a local-first SQLite persistence layer for secure, low-latency storage, keeping user session metrics entirely on the device without requiring external cloud storage.
- Managed the complete release workflow, including production builds, application packaging, installer creation, and Microsoft Store distribution.