# Monishwaran .C

**Software Engineer**

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## WORK EXPERIENCE

### Software Engineer | Bapon IT Services | Chennai, India

**December 2024 – Present**

* Developed and maintained multiple AI-powered applications including Hyr-Sense (AI interview platform), SenseScript (meeting transcription app), HRSuite (timesheet management), and SkillfulSense (skill assessment platform)
* Built 130+ RESTful API endpoints using FastAPI with Python
* Implemented cloud recording functionality using Agora SDK, integrating with AWS services for seamless audio/video storage
* Designed and deployed microservices architecture using AWS Lambda functions, ECS Fargate, and API Gateway
* Integrated multiple payment gateways (Razorpay, Stripe) and authentication systems (AWS Cognito, Azure AD SSO)
* Optimized infrastructure costs and performed cost analysis to determine minimal user acquisition targets
* Achieved AWS Cloud Practitioner certification with 96.2% score

### Senior Odoo Developer | Jetzerp Private Limited | Karaikudi, India

**May 2023 – December 2024**

* Led a cross-functional team of 6 members (2 developers, 3 business analysts, 1 tester) delivering ERP solutions for manufacturing and automotive clients
* Developed custom Odoo modules for inventory management, purchase order automation, and quality control reportinga
* Created automated data import systems using Zoho Books API integration with webhook endpoints, reducing manual processing time by 80%
* Successfully migrated Odoo 14 to Odoo 17 Community edition by developing custom migration scripts
* Performed platform upgrades including Ubuntu 16 to Ubuntu 22 migration with Python version management using pyenv
* Generated comprehensive business reports (inventory analysis, vendor success rates) using Python xlwt package
* Built FastAPI services integrated with mobile applications for real-time inventory tracking

### Flutter Developer | Jetzerp Private Limited | Karaikudi, India

**January 2023 – May 2023**

* Developed mobile applications for automotive and manufacturing industries using Flutter framework
* Created Inventory Checker app with barcode scanning functionality, directly integrated with Odoo ERP database
* Built Appraiser app for Autobuy (US-based car trading platform) with real-time lead tracking and communication features
* Implemented API integration, loading indicators, and responsive UI components following material design principles

## KEY PROJECTS

### SkillfulSense - AI-Powered Skill Assessment Platform

**Technologies:** FastAPI, MongoDB, AWS Lambda, Agora SDK, OpenAI GPT-4, AWS Polly, Razorpay/Stripe

* Developed comprehensive skill assessment platform with MCQ tests, coding challenges, and AI interviews
* Implemented real-time voice assistant using GPT-4o-realtime-preview with web search capabilities
* Integrated payment gateways for global and Indian markets
* Built decoupled microservices architecture across 6 Lambda functions for optimal scalability

### HRSuite - Enterprise Timesheet Management System

**Technologies:** FastAPI, PostgreSQL, SQLAlchemy, AWS Cognito, Azure AD, AWS SES

* Architected and developed 90+ API endpoints covering timesheet, leave management, attendance, and RBAC modules
* Implemented Single Sign-On (SSO) integration with organizational Azure Directory
* Built automated email notification system using AWS SES for workflow management

### Odoo ERP Migration & Custom Development

**Technologies:** Python, PostgreSQL, XML, JavaScript, Ubuntu, AWS EC2

* Led migration from Odoo 14 to Odoo 17 Community edition, developing custom migration scripts
* Created automated purchase order import system with Zoho Books API integration
* Developed inventory management modules with real-time mobile app synchronization
* Built comprehensive reporting system for inventory analysis and vendor performance metrics

### Invoice Processing Automation - TI Murugappa Group

**Technologies:** FastAPI, SQLAlchemy, OCR, Oracle Database, Python

* Developed intelligent invoice processing system reducing manual data entry time by 90%
* Implemented OCR-based JSON parsing for automatic invoice data extraction
* Built machine learning pipeline for invoice type recognition and automatic field mapping
* Created web portal for manual processing of new invoice types with approval workflows

### Pipe Size Optimization Tool

**Technologies:** Python, Pandas, FastAPI, AWS Lambda, S3, Route 53  
**Live Demo:** [opti.mklabs.work](https://opti.mklabs.work/)

* Developed web-based optimization tool for water distribution pipeline design
* Automated iterative diameter calculation process, achieving 80% optimization efficiency
* Built full-stack solution with Excel file processing and AWS cloud hosting

## EDUCATION

### Bachelor of Engineering - Mechanical Engineering

**ACGCET, Karaikudi | 2019 – 2023**  
CGPA: 8.1/10

### Higher Secondary Certificate (HSC)

**SVS Mat Hr Sec School, Muthupet | 2018 – 2019**  
Percentage: 85%

### Secondary School Leaving Certificate (SSLC)

**SVS Mat Hr Sec School, Chennai | 2016 – 2017**  
Percentage: 97%

## TECHNICAL SKILLS

### Programming Languages

* **Python (Advanced)** - FastAPI, SQLAlchemy, Pandas, Selenium
* **Dart/Flutter (Intermediate)** - Mobile app development, API integration
* **JavaScript (Intermediate)** - Frontend development, API integration
* **SQL (Advanced)** - PostgreSQL, MongoDB queries and optimization

### Cloud & DevOps

* **Amazon Web Services (AWS)** - Lambda, EC2, S3, API Gateway, ECS Fargate, Cognito, SES, SNS, Polly, Transcribe
* **Database Management** - PostgreSQL, MongoDB, Oracle Database
* **Version Control** - Git, GitHub
* **Linux/Ubuntu** - Server administration, SSH, Nginx configuration, systemd services

### Frameworks & Technologies

* **Backend Development** - FastAPI, RESTful APIs, Microservices Architecture
* **ERP Systems** - Odoo (Community & Enterprise), Custom module development
* **AI/ML Integration** - OpenAI GPT-4, Whisper,Deepseek,-chat, AWS AI services
* **Mobile Development** - Flutter, Firebase integration
* **Payment Integration** - Razorpay, Stripe payment gateways

### Integration & APIs

* **Third-party Integrations** - Zoho Books, Agora SDK, Alison Platform, Azure AD, openAI
* **Authentication** - AWS Cognito, SSO implementation, OAuth
* **Real-time Communication** - WebRTC, voice/video calling, cloud recording

### Business & Domain Knowledge

* **ERP Modules** - Sales, CRM, Manufacturing, Inventory, Accounting, Purchase Management
* **Project Management** - Team leadership, cross-functional collaboration
* **Cost Optimization** - Infrastructure cost analysis and optimization strategies

## CERTIFICATIONS

* **AWS Cloud Practitioner** - Score: 96.2% (2025)

## ADDITIONAL PROJECTS

### College & Personal Projects

#### Genmo App - Generator Temperature Monitoring

**Technologies:** Flutter, Firebase, IoT Sensors - Collaborated with Electronics and Communication Engineering student for IoT-based temperature monitoring - Developed mobile app to display real-time generator temperature data from Firebase database - Integrated sensor data visualization and additional generator information display

#### Quiz Competition App

**Technologies:** Flutter, Firebase, Admin Panel - Created quiz application for Electrical and Electronics Engineering symposium - Implemented multiple choice questions with interactive feedback system - Built admin panel for participant management, answer tracking, and score evaluation - Integrated automatic winner announcement system based on scores

#### Python Projects

* **Snake & Pong Games** - Recreated classic games using Tkinter and Turtle graphics
* **Spotify Billboard Scraper** - Selenium-based web scraper that creates Spotify playlists from Billboard charts
* **Pomodoro Timer App** - Productivity application with time management features
* **Automatic Birthday Wisher** - Email automation service for sending birthday wishes

*Resume last updated: August 2025*