MONISHWARAN C

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PROFESSIONAL SUMMARY

Results-driven Software Engineer with 1+ years of experience specializing in backend development, cloud architecture, and AI integration. Proven track record in designing and deploying scalable microservices using Python FastAPI, AWS cloud services, and modern AI technologies. Demonstrated expertise in building end-to-end solutions from architecture design to production deployment. Strong foundation in engineering principles combined with advanced technical skills in serverless architecture, RESTful APIs, and database management. Seeking new career opportunities.

EDUCATION

Bachelor of Engineering in Mechanical Engineering

A.C.G.C.E.T, Karaikudi, Tamil Nadu, India

2019 - 2023 | CGPA: 8.1/10 (First Class)

Higher Secondary Certificate (HSC)

SVS Matriculation Higher Secondary School, Muthupet, Tamil Nadu, India

2018 - 2019 | Percentage: 85%

Secondary School Leaving Certificate (SSLC)

SVS Matriculation Higher Secondary School, Muthupet, Tamil Nadu, India

2016 - 2017 | Percentage: 97%

PROFESSIONAL EXPERIENCE

Bapon IT Services

Sofware Engineer

July 2025 - Present | Chennai, Tamil Nadu, India

SkillfulSense - Web Assessment Platform (skillfulsense.com)

Led full-stack development of a comprehensive web assessment platform providing topic-based assessments, AI-powered interview simulations, and personalized learning pathways with integrated certification system.

- Architected and developed 40+ RESTful API endpoints using FastAPI with decoupled microservices architecture, ensuring scalability and maintainability
- Integrated dual payment gateway systems (Razorpay for Indian market, Stripe for international transactions) processing secure financial transactions

- Implemented AI-powered assessment generation system using DeepSeek-Chat API for creating multiple-choice questions and coding challenges
- Built real-time AI interview simulation system integrating Agora meeting channels, GPT-4o for natural language processing, and AWS Polly for text-to-speech voice synthesis
- Developed intelligent voice assistant using GPT-4o-mini-real me-preview with direct audio token processing for reduced latency and improved response times
- Created post-session resource recommendation feature powered by GPT-4.1 with integrated web search capabilities for personalized learning materials
- Deployed serverless backend across 6 AWS Lambda functions following microservices architecture; voice agent deployed on EC2 with auto-scaling configuration
- Integrated Google Custom Search API and YouTube Data API for curating free educational course recommendations tailored to user performance
- Conducted comprehensive infrastructure cost analysis and determined minimum viable user threshold for achieving cost recovery and profitability
- Managed AWS Cognito for secure user authentication and authorization; configured AWS SES for automated email notification system

Technologies: Python, FastAPI, MongoDB, AWS Lambda, AWS EC2, AWS S3, AWS Cognito, AWS SES, GPT-4o, DeepSeek-Chat, Agora SDK, AWS Polly, Razorpay API, Stripe API, Google Custom Search API, YouTube Data API

Bapon IT Services
Backend Developer Intern

December 2024 - June 2025 | Chennai, Tamil Nadu, India

Hyr-Sense - AI-Powered Interview Platform

Enhanced existing AI-powered interview platform by implementing cloud recording capabilties and real-time session processing features.

- Implemented cloud recording functionality using Agora Cloud Recording API, enabling persistent storage of interview sessions on AWS S3
- Developed automated recording trigger mechanisms integrated with interview start/end API endpoints for seamless session capture
- Configured secure AWS credentials management system for cloud storage operations ensuring data security and compliance

Technologies: Python, FastAPI, MongoDB, Agora SDK, AWS S3, React

SenseScript - Meeting Transcription and Summarization Application

Built serverless backend infrastructure for meeting audio processing application enabling accurate transcription and intelligent summarization of recorded meetings.

- Designed comprehensive RESTful API architecture using FastAPI framework for handling audio file uploads, processing, and retrieval
- Integrated AWS Transcribe service for accurate audio-to-text conversion with support for multiple audio formats and languages

- Implemented GPT-4o integration for generating concise, contextually relevant meeting summaries from transcription data
- Deployed serverless backend on AWS Lambda with API Gateway configuration for cost-effective, scalable infrastructure
- Configured AWS Cognito user pool management for secure authentication and authorization

Technologies: Python, FastAPI, AWS Lambda, AWS API Gateway, AWS Transcribe, GPT-4o, AWS Cognito, MongoDB

HRSuite - Enterprise Timesheet Management Portal

Developed comprehensive HR management system to replace Zoho People, providing customized solution for organizational timesheet, leave, attendance, and project management requirements.

- Engineered 90+ API endpoints handling complex business logic for timesheets, leave management, attendance tracking, document management, projects, and job postings
- Implemented role-based access control (RBAC) system for secure multi-level permissions management across different organizational hierarchies
- Utilized PostgreSQL database with SQLAlchemy ORM for optimized relational data operations and complex query management
- Configured AWS Cognito Single Sign-On (SSO) integration with Azure Active Directory for seamless enterprise authentication
- Set up AWS Simple Email Service (SES) for automated email notifications, alerts, and approval workflows

Technologies: Python, FastAPI, PostgreSQL, SQLAlchemy, AWS SES, AWS Cognito, Azure Ac ve Directory, React

PERSONAL PROJECTS

Pipe Diameter Optimizer (opti.mklabs.work)

Developed web application automating water distribution pipeline diameter optimization process, reducing manual iteration time by 80% through algorithmic approach.

- Built optimization algorithm considering velocity constraints, residual head requirements, and endpoint pressure specifications for water distribution systems
- Created RESTful API endpoints using FastAPI for sample template download and optimization processing operations
- Implemented Excel file manipulation functionality using Pandas library for seamless input data processing and output generation
- Deployed serverless backend on AWS Lambda, frontend react app on S3 for cost-effective cloud deployment
- Configured AWS Route 53 for custom domain DNS management and SSL certificate setup

Technologies: Python, Pandas, NumPy, FastAPI, AWS Lambda, AWS S3, AWS Route 53, JavaScript, HTML, CSS

CERTIFICATIONS

AWS Certified Cloud Practitioner
Amazon Web Services (AWS) | Score: 96.2% | Valid till april 2028

TECHNICAL SKILLS

Programming Languages: Python (Advanced), JavaScript, SQL

Frameworks & Libraries: FastAPI, React, SQLAlchemy, Pandas, NumPy

Databases: MongoDB, PostgreSQL, SQL Server

Cloud Technologies (AWS): Lambda, EC2, S3, RDS, API Gateway, Cognito, SES, Transcribe, Polly, CloudWatch, Route 53

AI & Machine Learning: OpenAI GPT-4o, GPT-4.1, DeepSeek-Chat, OpenAI Whisper, Natural Language Processing

API Integration: RESTful APIs, Agora SDK, Razorpay API, Stripe API, Google APIs, YouTube Data API

Development Tools: Git, GitHub, Postman, Docker, VS Code

Architecture & Design: Microservices Architecture, Serverless Architecture, API Design, Database Design, System Architecture

Authentication & Security: OAuth 2.0, JWT, AWS Cognito, Azure Active Directory, SSO Implementation

KEY COMPETENCIES

• Full-Stack Development • Cloud Architecture • Microservices Design • API Development • Database Management • AI Integration • Payment Gateway Integration • Authentication Systems • Serverless Computing • Project Management • Problem Solving • Team Collaboration • Technical Documentation • Agile Methodologies • Cost Optimization