

# ATHUL MENON P

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## PROFESSIONAL SUMMARY

Software Developer and AI Engineer with hands-on experience building scalable full-stack applications and AI-driven systems using modern frameworks and cloud platforms. Strong expertise in Python, deep learning, and Agentic AI (OpenAI Agents SDK, Crew AI, LangGraph, MCP). Experienced in modernizing legacy enterprise systems. Adept at collaborating with cross-functional teams to deliver high-impact solutions aligned with business goals.

## EDUCATION

### Bachelor of Technology, Computer Science and Engineering

August 2024

Vidya Academy of Science and Technology, Thrissur

CGPA - 7.81

## SKILLS

- AI & Machine Learning:** Machine Learning, Deep Learning, Generative AI, Agentic AI
- Agentic AI Frameworks:** OpenAI Agents SDK, Crew AI, LangGraph, Microsoft Autogen, MCP Protocol
- Programming Languages:** Java, Python, JavaScript
- Python Libraries & Frameworks:** Flask, OpenCV, PyTorch, TensorFlow, NumPy, LangChain
- Web Technologies:** React.js, Node.js, Express.js, Spring Boot
- Databases:** MongoDB, MySQL, PostgreSQL, IBM DB2
- Cloud and Systems:** Google Cloud Platform (GCP), CI/CD Pipelines
- Version Control:** Git, GitHub

## WORK EXPERIENCE

### Software Developer – I, UST, Trivandrum

December 2024 - Present

- Working on the modernization of legacy enterprise systems by performing reverse engineering of AS400 system programs
- Analyze and document legacy program logic, capturing business rules and control flows to support accurate migration to the Google Cloud Platform (GCP)
- Improved workflow clarity and maintainability, streamlining the documentation and migration process by 20%, resulting in faster workflow.
- Collaborating with cross-functional teams to ensure complete understanding of system behavior and integration points

## PROJECTS

### DragonSense: AI-Driven Natural Language Query System

- Tech Stack: Python, Flask, Generative AI, Langchain, MySQL
- Collaborated with a team and developed an AI-powered web interface enabling natural language SQL querying via voice and text

- Deployed backend services using Flask; optimized database interactions via MySQL.
- Built an intuitive UI with HTML, Bootstrap, and jQuery for seamless user interaction

### **Career Conversation: AI-Powered Interactive Resume Agent**

- Tech Stack: Python, Gradio, Gemini (via OpenAI-compatible endpoints), Hugging Face Spaces, Pushover
- Developed a conversational AI agent that functions as an interactive resume for real-time career and project discussions about myself
- Integrated Gemini LLM through OpenAI-compatible endpoint APIs to enable a modular, model-agnostic system architecture
- Implemented Pushover notifications for instant alerts on user contact requests and fallback unanswered queries
- Deployed a 24/7 publicly accessible AI agent on Hugging Face Spaces using Gradio for continuous availability

### **HTML Code Generation from Hand-drawn Images Using Machine Learning Techniques**

- Tech Stack: TensorFlow, OpenCV, NumPy
- Developed a deep learning model to convert hand-drawn mock-ups into HTML using Python
- Implemented deep learning models using TensorFlow and NumPy for feature extraction and code generation
- Applied CNN-based feature extraction for sketch recognition and translation.

### **AI Virtual Mouse and Keyboard**

- Tech Stack: Python, OpenCV
- Developed a system enabling mouse and keyboard operations via hand gestures and fingertip detection for hands-free computer interaction
- Implemented object-tracking algorithms to facilitate interaction with the system through hand gestures
- Captured and processed frames from the webcam, identifying various hand gestures to trigger specific mouse and keyboard functions

### **Chat Application: Real-Time Messaging Platform**

- Tech Stack: React, Node.js, Express.js, MongoDB, Socket.io, Zustand, Tailwind CSS, DaisyUI, JWT
- Designed and developed a full-stack chat application enabling real-time, bidirectional communication between users
- Implemented secure authentication and authorization using JWT, ensuring data privacy and controlled access
- Integrated Socket.io to deliver instant messaging, online status visibility, and smooth synchronization across sessions
- Managed global state efficiently with Zustand, improving responsiveness and scalability
- Built a modern, responsive UI using Tailwind CSS and DaisyUI to provide an engaging and consistent user experience

### **Quality Cafe: Full-Stack Restaurant Website**

- Tech Stack: React.js, Node.js, Express.js, MongoDB, Axios, Mongoose
- Designed and developed a modern, responsive restaurant website with online table reservation capabilities

- Ensured a seamless browsing experience with smooth scrolling navigation and a mobile-friendly, fully responsive UI
- Developed backend services using Express.js and MongoDB, with Mongoose for schema modeling.
- Utilized React Router for structured client-side navigation and Axios for efficient communication with backend APIs.

### To-Do List Application: MERN Task Management System

- Tech Stack: React.js, Node.js, Express.js, MongoDB, Mongoose, Tailwind CSS
- Designed and developed a full-stack to-do list application with complete CRUD functionality for task management
- Implemented RESTful APIs using Node.js and Express.js and integrated MongoDB for persistent data storage
- Built a responsive and user-friendly interface using React.js and Tailwind CSS for seamless cross-device experience

### React Weather App: Real-Time Weather Information

- Tech Stack: React.js, Fetch API / Axios, OpenWeatherMap API
- Developed a responsive web application that displays real-time weather details based on city input
- Integrated public weather APIs to dynamically fetch and render temperature, humidity, and weather conditions
- Designed and implemented a clean, intuitive UI ensuring smooth performance across devices

## CERTIFICATIONS

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<b>Cloud Digital Leader(GCP), Google</b> Course completion certificate from Google	April 2025
<b>Oracle Cloud Infrastructure 2025 Certified Generative AI Professional, Oracle</b> Certification by Oracle	April 2025
<b>Oracle Cloud Infrastructure 2025 Certified AI Foundations Associate, Oracle</b> Certification by Oracle	April 2025
<b>The AI Engineer Agentic Track: The Complete Agent &amp; MCP Course, Udemy</b> Course completion certificate from Udemy	November 2025
<b>The Complete Full-Stack Web Developer Bootcamp, Udemy</b> Course completion certificate from Udemy	May 2025
<b>Full Stack Web Development, Manifold</b> Course completion certificate from Manifold Institute of Technical Education, Thrissur, Kerala	September 2023
<b>PHP and MySQL Training, IIT Bombay</b> Course completion certificate from IIT Bombay	September 2023
<b>Python Basics, Infosys Springboard</b> Course completion certificate from Infosys Springboard	November 2022

