

# Subham Agarwal, ML & AI Engineer

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## SUMMARY

Dynamic ML & AI Engineer with hands-on experience in AI solutions and customer service technology, equipped with expertise in voice integration and natural language processing. Completed multiple internships with a focus on building scalable applications, achieving an 85% boost in system performance and 96% reduction in runtime in previous projects. Proficient in integrating advanced technologies like FastAPI and Microsoft Azure OpenAI services. Eager to contribute innovative solutions and enhance user experiences in an AI-focused role.

## WORK EXPERIENCE

05/2025 – 07/2025	<b>AI Intern, Ethical Den</b>	Kolkata
	<ul style="list-style-type: none"><li>Investigated SIP/VOIP telephony systems while comparing solutions such as Twilio, Plivo, and Exotel for voice integration.</li><li>Evaluated Speech-to-Text and Text-to-Speech technologies tailored for multilingual (Hindi, English, Bengali) voice assistants.</li><li>Benchmarked large language models (LLMs) including Azure OpenAI and Gemma1B for response generation in conversational AI, running the Gemma1B model locally with WhisperAI's large-v3-turbo and Google's TTS.</li><li>Developed a proof-of-concept voice assistant integrating STT, TTS, and SIP using Google Cloud, Twilio, and semantic kernel/langchain pipelines.</li><li>Prototyped and validated a multilingual assistant with Google TTS and Whisper AI for practical scenarios involving Indian accents.</li><li>Diagnosed system latency bottlenecks, optimized audio streaming employing Twilio's &lt;stream&gt; approach, and analyzed sample rate compatibility issues.</li><li>Constructed and assessed a custom WebRTC solution and Asterisk server setup to evaluate direct device connections for low-latency voice transmission.</li><li>Collaborated on troubleshooting bot-device connections using MicroSIP, enhancing ASR accuracy and overall system reliability.</li></ul>	
10/2024 – 03/2025	<b>Software Developer Intern, Prive Technologies</b>	Hong Kong
	<ul style="list-style-type: none"><li>Developed and sustained backend web applications using Node.js and PHP for robust and scalable solutions.</li><li>Engineered and managed MySQL databases to optimize data handling processes.</li><li>Instituted a microservices architecture, simplifying maintenance and updates.</li><li>Oversaw AWS infrastructure (EC2, S3, AWS Bedrock) to ensure continuous integration and deployment.</li><li>Spearheaded a proof-of-concept for chatbot implementation and automated testing procedures.</li><li>Constructed a comprehensive AI application (frontend + backend) facilitated by Docker containerization.</li><li>Instituted an auto-prompting question feature that adapts suggestions based on the user's document context.</li></ul>	

08/2024 – 10/2024	Trainee Intern (AI), Kumran Systems	Chennai
<ul style="list-style-type: none"><li>Developed a scalable AI application utilizing LLMs and RAG architectures, enhancing data processing efficiency and user experience.</li><li>Implemented FastAPI, RestAPI, and Microsoft Azure OpenAI services, boosting system performance by 85%.</li><li>Trained a model for PII data using NER, increasing data processing accuracy by 88%.</li><li>Executed automation testing with Selenium and Pytest, achieving a 96% reduction in system runtime.</li></ul>		

EDUCATION

08/2023 – 05/2025	Bennett University, Greater Noida Master’s in Computer Application (AI)	Uttar Pradesh, India
<ul style="list-style-type: none"><li>CGPA: 8.69</li><li>Projects: Vehicle Plate Recognition System, Pixel Art Generation, ML Model trials, etc.</li></ul>		
08/2020 – 06/2023	Presidency University, Bangalore Bachelor’s in Computer Application (Gaming / Graphics)	Karnataka, India
<ul style="list-style-type: none"><li>CGPA: 6.69</li><li>Experience with Python, C#, C, Unity, Unreal Engine, Blender, Autodesk Maya, DaVinci Resolve, Adobe Suite.</li></ul>		

SKILLS

AI	ML
Deep Learning	PowerBI
Data Analytics	Python
Java	C#
SQL Server Management Studio	MySQL
Oracle DB	MongoDB
Docker	AWS (Bedrock, S3, EC2)
RestAPI	Web Development
Problem Solving	Critical Thinking
FastAPI	Time Management
Communication Skills	Data Science
TensorFlow	PyTorch
Scikit-learn	NumPy
Pandas	Analytical Skills

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## CERTIFICATES

Machine Learning for All

Data Structures & Algorithms

Computer Networking

Linux Fundamentals

Artificial Intelligence

DBMS

Git & GitHub

Software Engineering Internship Certificate

Image Processing

Preparing Data for Analysis with Microsoft Excel

Foundations of Data Science

Google Advanced Data Analytics