Madhav Kumar

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Professional Summary

Innovative and outcome-focused Software Engineer, Artificial Intelligence Engineer, and Full Stack Developer with expertise in designing, developing, and deploying AI-powered systems, enterprise software applications, and cloud-native solutions. Skilled in Python, JavaScript, TypeScript, Java, C++, Golang, and modern frameworks for scalable backend and frontend development. Proven experience in machine learning, deep learning, large language models (LLMs), data engineering, API development, and DevOps. Interested in Agile development, cloud platforms (AWS, Azure, GCP), and security best practices. Recognized for delivering productiongrade solutions, mentoring teams, and driving innovation in startups and research environments.

Education

Bachelor of Technology (B.Tech) in Engineering Physics

Indian Institute of Technology Delhi

Minor in Computer Science and Engineering

2024

Location: New Delhi, Delhi, India

Relevant Coursework: Data Structures and Algorithms, Machine Learning, Artificial Intelligence, Software Engineering, Database Management Systems, Computer Networks, Operating Systems

Work Experience

Software Developer

Jun 2025 – Present

PNP Exchange

- Launched PNP Agent, converting prediction market data into AI-generated news with analytics dashboards; increased content delivery speed by 50%.
- Built distributed data ingestion pipelines using Supabase and microservices, scaling to process 500K+ market events daily. PNP_Agent | PolyNews

Nov 2023 - Feb 2024 **AI Engineer**

Lawrence, Switzerland (LegalTech Startup)

- Delivered an AI legal analysis platform using LLMs, enabling retrieval of Swiss laws, case precedents, and legal articles with 90%+ precision in test cases.
- Reduced manual legal research time by 65% through semantic search and document summarization. Prototype | Lab

AI Engineer *May 2023 – Aug 2023*

Hashed Ventures, Seoul, South Korea

 Developed a secure Slack-integrated document question-answering assistant leveraging on-premises Retrieval-Augmented Generation (RAG), LangChain framework, and Chroma vector database for enterprise knowledge access. Babu-LOHAR

Technical Skills

Programming Languages Cloud Platforms DevOps & Tools Cybersecurity Tools Machine Learning & AI

Other Skills

Python, TypeScript, JavaScript, Java, C/C++, Golang, Shell Scripting AWS (Bedrock, S3, SageMaker, EC2), Microsoft Azure, Google Cloud Platform Git, Docker, Kubernetes, CI/CD, SQL Databases, MongoDB Wireshark, Burp Suite, Metasploit, Hashcat, Network Security Tools Llama Index, LangChain, DSPy, Vector Databases, Hugging Face, CrewAI, Autogen, Eliza OS, Pydantic AI, MemO, ACE Framework, TensorFlow, PyTorch Object-Oriented Programming (OOP), Data Structures and Algorithms (DSA), Web Development, API Development, Automation, Networking, Capture the Flag (CTF) Competitions, Generative AI, Web Scraping, CLI Development, Bots Development

Miles AI: WhatsApp Co-pilot

Aug 2024

- Published a Personalized Response Management (PRM) platform using Python, LangChain, and advanced Natural Language Processing (NLP) models to generate context-aware replies and automate user interactions.
- Integrated LLM-based reply generation improving conversation efficiency; achieved 200+ active users in the first month. GitHub Link

AI Chatbot

Jul 2023

- Engineered a production-ready Retrieval-Augmented Generation (RAG) pipeline using LangChain, Pinecone vector database, and custom embeddings to deliver accurate responses from private datasets.
- Optimized query relevance by 30% through fine-tuned embeddings. GitHub Link

X-Tweet: Twitter Co-pilot

Nov 2023

- Pioneered a Telegram bot integrated with GPT-3.5 for automated social media content creation, scheduling, and analytics.
- Fine-tuned LLMs on domain-specific datasets to increase engagement metrics by 25%. GitHub Link

Medcare: AI Medical Assistant

Jun 2024

- Automated EMR-ready clinical documentation, reducing physician note-taking time by 90%.
- Created AI follow-up system, increasing patient recall rates by 20%. GitHub

Who-Is-Online

Jan 2024

• Designed a Chrome extension using JavaScript, WebSockets, and real-time APIs to display active user counts and enable instant global messaging. GitHub Link

PNP_Agent: Prediction Markets X Bot

Jun 2025

• Deployed an AI-driven market analysis bot on Twitter to aggregate prediction market data, generate forecasts, and deliver trading insights in real time. Project Link

Research

Researcher

Dec 2024 – Present

Artificial Emotional Intelligence (AEI)

Conducting independent research on emotional cognition, artificial consciousness, and autonomous agent architectures. Blog

Achievements

Samsung R&D Solve for Tomorrow 2023

Mentored a finalist team ranked in India's Top 10 nationwide innovation competition

Exams

Competitive Programming Ratings

Cleared JEE Mains & JEE Advanced

CodeChef: 4-Star (1800+), Codeforces: Pupil (1300+), HackerRank: 5-Star in C++, Python, Java, Critical Thinking; Top 1% Hackers on TryHackMe; Top 10% Developers on GitHub