Manoj Shetty K
Senior Software Engineer
shettykmanojmask@gmail.com | +91 9945602434 | www.manojshettyk.in | LinkedIn

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SUMMARY
Senior Software Engineer with over **4 years** of experience in backend development, API design, and cloud deployment. Proficient in **Python, FastAPI, and Generative AI**, with expertise in cloud platforms like Azure. Skilled in managing deployments using Kubernetes and working with both **NoSQL (MongoDB) and SQL (PostgreSQL) databases**. Experienced in leveraging **Elasticsearch** for data search and analysis. Passionate about building scalable AI-driven applications and collaborating in **Agile environments**. Recognized for problem-solving, innovation, and leadership in software development.

SKILLS
Programming Languages: Python, JavaScript, C, HTML/CSS
Generative AI: LLMs, RAG (Retrieval-Augmented Generation), Prompt Engineering, Fine-tuning Models
AI Tools & APIs: OpenAI API, Google Gemini AI, Hugging Face
Databases: PostgreSQL, MongoDB, MySQL, Elasticsearch, Redis
Frameworks: FastAPI, Flask, Streamlit
Cloud Platforms: Microsoft Azure, Kubernetes, Version Control: Git (GitHub, GitLab)
Other: Agile (Scrum, Kanban), Jira, REST API Design, Security Best Practices

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WORK EXPERIENCE
Senior Software Engineer
Knowledge Lens: A Rockwell Automation Company
08/2021 - Present | Bengaluru, India
- Developed and optimized **RESTful APIs** using Python (FastAPI, Flask).
- Designed and managed **PostgreSQL and MongoDB** databases for high-performance data storage.
- Worked on **RA-GenAI** project, integrating **Retrieval-Augmented Generation (RAG)** and **LLMs** for intelligent automation.
- Deployed AI-driven applications on **Azure Kubernetes Service (AKS)** for scalability and reliability.
- Enhanced search capabilities using **Elasticsearch** and performance caching with **Redis**.
- Followed **Agile methodologies (Scrum, Kanban)** and used **Jira** for sprint management.
- Ensured security best practices, including **OAuth, encryption, and input validation**.

PROJECTS
Professional Projects
- **RA Gen AI (05/2024 - Present)**
  - Implemented AI-driven automation solutions using **Generative AI and Large Language Models (LLMs).**
  - Leveraged Retrieval-Augmented Generation (RAG) techniques to enhance content accuracy and relevance.
  - Successfully filed **1 use case as a US patent**, showcasing innovation in applied Generative AI.
  - Developed optimized prompts to fine-tune AI responses for various use cases.
  - Built interactive AI-powered applications using FastAPI and Streamlit.
  - Rolled out **3 production-ready AI solutions** that are actively used in real-world applications.
    Technologies Used: Generative AI, Prompt Engineering, Python (FastAPI, Streamlit), RAG

- **Digital Tech Transfer (09/2021 - 05/2024)**
  - Designed and developed a backend system for converting hard copy PDF documents into digital formats, focusing on pharmaceutical documentation.
  - Built a scalable API for processing structured data using ISA88 and B2MML standards.
  - Led the digitization of recipe data from various pharmaceutical companies, transforming it into ISA88 format to be fed into manufacturing units, including all line equipment and plants.
  - Utilized **FastAPI** for efficient API development, **PostgreSQL** for structured data storage, **Redis** for caching, and **Elasticsearch** for advanced search capabilities.
    Technologies Used: FastAPI, PostgreSQL, Redis, Elasticsearch, ISA88, B2MML, Azure Kubernetes Service (AKS)

- o **MR Analytics (05/2021 - 08/2021)**
  - **Developed a Microsoft Word Add-in** using **Python** and **Visual Studio** to facilitate market research automation.
  - Assisted companies in gathering consumer insights by enabling efficient data collection and analysis.
  - Implemented backend logic for storing and processing market research data.
    Technologies Used: Flask API, MongoDB, Python, Visual Studio

- o **Survey Automation Tool (03/2021 - 05/2021)**
  - Developed a web application for collecting survey responses from respondents across multiple countries using predefined templates.
  - Designed and implemented multiple Flask APIs for handling survey data collection and retrieval.
  - Enabled data-driven decision-making by structuring responses for analytical purposes.
    Technologies Used: Flask, REST APIs

Personal Projects

- o **querybuilder-llm** (2025).
  - Built **querybuilder-llm, a pip package** converting natural language to PostgreSQL/MongoDB queries.
  - Implemented **LLM-powered query generation** to streamline database interactions and boost developer productivity. - https://pypi.org/project/querybuilder-llm/
- o **LifeOfPi** (2025)
  - Created an **interactive web app** that generates **infinite digits of Pi** in real-time-https://lifeofpi.in
  - Designed an engaging UI and optimized number generation algorithms for performance.
- o **Code Converter** (2024-Present)
  - Developed a **web-based code converter** using **Google Gemini AI** for seamless programming language conversion.
  - Built with **Flask,** integrating **LLMs for accurate translations**.
- o **PypI MatchFinder** (2024)
  - Built a **Python package** to simplify string matching using fuzzy logic and pattern recognition.
  - Published on **PyPI** - https://pypi.org/project/MatchFinder/
- o **KAVI** – **Kannada Algorithmic Versatile Interpreter**. (2024-Present0
  - Designed a simple **Kannada-based programming language** with basic loops, conditionals, and I/O functions.
  - Developed an interpreter in **Python** to execute KAVI programs with custom syntax.

EDUCATION
Bachelor of Engineering (Computer Science)
Vivekananda College of Engineering & Technology, Puttur
2017 - 2021 | **CGPA: 8.65**

ACHIEVEMENTS
- **Honorable Mention Award - Genius Olympiad (Oswego, NY, 2014)**
  Represented India and received an **Honorable Mention** for an innovative project at Oswego University, USA.
- **Budding Star - Knowledge Lens (2023)**
  Recognized for dedication, problem-solving, and contributions to backend development.

LANGUAGES
- **English** (Full Professional Proficiency)
- **Hindi** (Limited Working Proficiency)
- **Kannada** (Native)
- **Malayalam**

INTERESTS
Photography | Art | Creative Writing | Stargazing | Coding