**Geetika Saraf**

3513 Leanne Drive, FLOWER MOUND, Texas **•** 5038407719 **•** geetikasaraf@gmail.com **•** linkedin.com/in/geetikasaraf/

**Senior Data Scientist | Senior AI Engineer | AI Architect**

As a Senior Data Scientist and Engineer, I have extensive experience in leveraging advanced technologies to deliver innovative AI solutions at an enterprise scale. My expertise encompasses a diverse range of skills and tools, ensuring seamless development, deployment, and monitoring of AI-driven applications.

* **Doctor's Degree in Computer Science (Generative Artificial Intelligence)**
* **Domain Expertise: Healthcare, Finance, Administration, customer-facing, insurance.**
* **Large Language Models (LLMs):** Proficient in working with industry-leading LLMs, including OpenAI GPT, Anthropic, and other similar tools, to design and deploy sophisticated generative AI applications.
* **Enterprise-Scale Generative AI Deployments:** Demonstrated success in implementing generative AI solutions at scale for enterprise environments, ensuring high performance, reliability, and business value.
* **DevOps for Generative AI:** Strong understanding of DevOps principles to streamline the deployment and monitoring lifecycle of generative AI tools, enhancing efficiency and reducing downtime.
* **AI Frameworks:** Skilled in utilizing frameworks such as TensorFlow, PyTorch, and Hugging Face for the development and fine-tuning of custom AI models to meet specific business needs.
* **Cloud Computing:** Adept at working with AWS and GCP to host, scale, and optimize AI products in robust cloud environments, ensuring scalability and security.
* **Containerization and Orchestration:** Extensive experience with Docker and Google Kubernetes Engine (GKE) for deploying and managing self-hosted generative AI tools, enabling flexible and scalable infrastructure.
* **Programming Proficiency:** Advanced proficiency in Python, JavaScript, and other programming languages commonly employed in AI/ML projects, allowing for efficient development and integration of AI solutions.
* **Generative AI Platforms:** Hands-on experience with tools like GitHub Copilot and self-hosted generative AI platforms, including expertise in installation, configuration, and maintenance to ensure optimal performance.
* **Excellent in research and innovation** (5+ publications in Journals/Conferences)

**EDUCATION**Doctor of Science (Computer Science: AI/ML) Aspen University, Phoenix, •07/2020 - 11/2024

MCA (Masters in Computer Applications) HNB Garhwal University, India • 07/2000 - 06/2003

BSc (Bachelor of Science) HNB Garhwal University, India • 07/1995 - 06/2000

**WORK EXPERIENCE**

**OGM Worldwide**• Dallas, USA • 10/2023 – Present, Self-employed- Gen AI Data Scientist/Engineer

* **Architecting and Building Gen-AI Integrated Application:** AI Integration Code Assist, Optimization with Feedback Loop; Research, Conceptualization, Building POC/MVP by leveraging LLM models (Gemini pro, llama2), RAG and RAGAS, Prompt tuning, Fine-tuning, Knowledge Base tuning, GAN, Transformers.
* **Architecting and Building a Life Insurance Chatbot:** Combined my knowledge of ChatGPT Prompt and effectively addressed life insurance queries, improved communication transparency, and reduced the workload for independent life insurance selling professionals.
* **LLM Models:** Leveraged advanced language models (LLMs) such as Mixtral, Llama2, Palm2 and ChatGPT4 to drive predictive modeling and progressive AI initiatives into production. Hands on fine tuning, RAG pipeline, RAGAS, Hugging Face, ChatGPT4 integrated Bots.
* My expertise in Large Language Models with Semantic Search and Understanding and Applying Text Embeddings came into play. I implemented a semantic search engine powered by an LLM trained on the organization's internal knowledge base.

**Kforce** • Dallas, USA • 03/2022 – 09/2023,- Senior Software Developer

Client: Centene

* **Developed and Maintained Complex Applications:** Led the design, development, and maintenance of critical applications such as **OTC**, **Web API**, and **Member Portal** with an emphasis on ensuring robust functionality and scalability. I specialized in the development of the **Prescription Drug Event (PDE)** application, focusing on accuracy, compliance with regulatory standards, and seamless user experiences.
* **Database Design, Development, and Implementation:** Played a pivotal role in architecting, optimizing, and implementing **relational database systems** for the PDE application, ensuring high performance and efficient data retrieval. Collaborated closely with stakeholders to define data models, enforce data integrity, and implement efficient query designs to meet application requirements. Utilized Oracle and database management principles to design scalable and secure data storage solutions
* **Code Quality and Peer Reviews:** Conducted comprehensive **code reviews** using **GitLab**, ensuring adherence to best practices, coding standards, and security guidelines. Actively implemented feedback loops to identify and address potential vulnerabilities, optimize performance, and maintain high-quality deliverables.
* **Mentorship and Team Collaboration:** Mentored junior developers by providing guidance, sharing best practices, and fostering a culture of continuous learning and improvement. Collaborated with cross-functional teams and participated in **Agile** and **Scrum ceremonies** such as sprint planning, daily stand-ups, sprint reviews, and retrospectives to ensure alignment with project timelines and objectives. Acted as a subject-matter expert for application development processes, supporting the team in resolving technical challenges and enhancing productivity.

Insight Global

**Insight Global** • Houston USA • 09/2018 – 03/2020,- Software Technical Lead

Client: US Anesthesia Partners

* **Developed and Maintained:** **Provider compensation** dashboard. **Boss**, in-house software to take care of charges received by hospitals to claim insurance for work and time of providers. Technology utilized .NET 4.7/.NET Core, C#, MVC, Web API, HTML, Microsoft SQL 2019 ,Azure functions, Azure Data Factory, Azure Functions, Azure Service Bus, CI/CD pipelines, Blob storage. Entity Framework (Code First).
* **Team Collaboration:** Led team of developers and worked with Business Analyst, Quality Analyst, Architect, and Team Manager. Oversaw a variety of projects, including budgets, milestones, and team performance. Agile was worked upon heavily. Used TFS heavily to work effectively in team and deliver products on time as responsible for holding scrum meetings every day.
* **Code Quality and Troubleshooting:** Code review and approval were mandatory before the TFS story was approved for testing. Hence, as lead, I did tons of them. Apart from QA, I wrote unit tests in the most feasible places to catch bugs beforehand. Most of them were Arrange-Act-Assert. I used Azure Application Insights, mainly to analyze telemetry to reach the problem point.
* **Enhancements:** Refactored old code with Solid Principles and wrote unit tests. Increased productivity by doing continuous deployments to clients. Developed Organized system infrastructure documentation and operating procedures, strengthening controls and enhancing overall performance. Delivered performance-driven and user-centric websites that met all business requirements.

**University of Texas Medical Branch** • Galveston USA • 10/2014 – 09/2018,Software Systems Specialist III

* **Developed and Maintained:** Enterprise **POWER** Application for UTMB Hospital which facilitates doctors, staff, students, and faculty to access their professional performance, academic details, grants, endowments, International travel approval workflow, and **provider compensation** details, etc. Power played an instrumental role in calculation any physician and non-physician compensations.Benchmarks included Compensation - Including total pay, bonus/incentives, retirement and more. Productivity - Work RVUs, total RVUs, professional collections and charges Benefit Metrics - Hours worked per week/year and weeks of vacation Access to our revered Research & Analysis etc Further analysis and reports were produced. Data used was queried from Oracle HCM database and Financial databases like PeopleSoft. Technology: .NET 4.6/ .NET Core,C#, Microsoft SQL, ETL like SSIS, Azure Functions, Azure Data Factory, Azure Blob storage, Azure Bus Service, Azure Application Insights MVC, Entity Framework( Database First).
* **Business Analysis:** Worked closely with clients to understand project requirements while building and implementing the finished product. Evaluated project requirements and specifications and developed software applications that surpassed client expectations.
* **Database Design:** Database design was done in Microsoft SQL and later in Azure SQL, and I also Designed, created, and monitored SSIS packages heavily used for ETL. Worked on integration of third-party tools like Microsoft Power BI and PeopleSoft, Oracle HCM, UTIMCO ( University of Texas Investment Management Company), Elsevier, etc., to retrieve data, analyze, and present in Power BI.
* **Unit Testing**: Wrote unit tests with the intent of moving towards the TDD environment, mostly including Arrange-Act-Assert.Delivered performance-driven and user-centric websites that met all business requirements.

**University of Texas Medical Branch**• Galveston USA • 05/2013 – 10/2014, Financial Analyst I

* **Financial Recommendations:** Provided financial recommendations to department directors in terms of grants and endowments spending. Identified budget variances and recommended corrective actions, avoiding overruns, and maintaining a positive cash position. Creating Budgets every year and predicting the amount of award remaining calculated based on speed of expenditure and time and amount of award. All that encompasses the salaries and fringe benefits like worker compensations, paid vacation, travel awards, etc. of Faculties, researchers, and that data was fetched from Oracle HCM/PeopleSoft database into our Microsoft SQL databases and Hyperion Interactive Oracle Reporting.
* **Project financial analysis:** Analyzed and reviewed, revenues, costs, and expenses for operating the projects, throughout the life cycle of the project. Reviewed monthly requisitions for accuracy and completeness, reconciled transactions and determining payment approval statuses.
* **Data Management:** Financial data maintained and accessed through SQL. Hence, for analysis and report generation, SQL queries were used heavily from Oracle HCM and Peoplesoft Finance.
* **Budgeting:** Performed complex financial and budget analysis to determine budget requirements, improve internal controls, and justify requested funding from three departments while managing more than $100 million in the annual budget. Developed forecasting tools to analyze revenue variance, business pipeline, and industry trends. Evaluated competitor data and statistics to develop a business investment strategy and drive growth.
* **Automation and Recognition:** Created systems to automate grants and endowments reporting system using Hyperion Interactive Oracle Reporting, integrating it with various data inputs like PeopleSoft, SQL, Excel, etc, by myself. I was awarded the **'Innovation Award'** in department as recognition for great work.

**University of Texas Medical Branch**• Galveston USA • 01/2010 – 05/2013, Research Associate II

* **Data Management:** Used Access Database and SQL to enter data into the project database. Organized clinical research from start to finish by designing effective questionnaires and data entry procedures and recruiting patients. Organized paperwork, including participant-informed consent waivers and research scope documentation
* **Team work:** Assisted 5 scientists with in-depth data research in both lab and office environments
* **Research Work:** Completed exhaustive research into Diabetes Mellitus II using databases, physical records and digital resources. Evaluated potential subject participants to assess suitability for planned studie. Created over 5 research summaries and presented them to supervisors to advocate further research and funding. Handled IRB studies using EPIC for Dr. Abate's clinical studies minutely, and as per laws, the number of studies earlier going through rejection was reduced drastically.Handled paperwork for Dr. Abate IACUC study on mice
* **Recognition:** Because of good work done, got the opportunity to lead some clinical studies, was recognized by Institutional Review Board for amount of knowledge and experience, and was requested to train newcomers

**Sahibzada Ajit Singh Institute of Information Technology & Research**• Mohali India• 07/2007 – 12/2008, Assistant Professor

* **Curriculum Development and Compliance:** Spearheaded the development and continuous updating of source syllabi for **MBA** and **MCA** programs, ensuring alignment with evolving academic standards, industry trends, and institutional guidelines. Collaborated with faculty and academic committees to integrate innovative teaching methodologies, emerging technologies, and real-world applications into course content.
* T**eaching and Subject Matter Expertise:** Delivered comprehensive lectures each semester to both undergraduate and graduate students on a diverse range of subjects, including **Operating Systems**, **C Programming**, **C++ Programming**, **Management Information Systems (MIS)**, **Software Engineering**, **Database Management Systems (DBMS)**, and **Artificial Intelligence (AI)**. Utilized interactive teaching methods, including case studies, hands-on programming sessions, and collaborative projects, to enhance student engagement and understanding of complex topics. Developed custom learning materials and assessment tools tailored to different learning levels, fostering an inclusive and effective educational environment.
* **Student Mentorship and Career Development:** Mentored over 100s of students, providing personalized guidance on academic growth, research projects, and career planning, resulting in successful internships and employment placements. Supported students in navigating their career pathways by offering resume-building assistance, interview preparation, and networking opportunities with industry professionals.
* **Academic Advising and Student Engagement:** Built strong, lasting relationships with both undergraduate and graduate students through **academic advising**, one-on-one consultations, and fostering open communication. Encouraged active participation in class discussions, promoting a collaborative and dynamic learning atmosphere that inspired critical thinking and problem-solving. Monitored and assessed student progress, offering timely feedback and recommendations for improvement to help students achieve their academic and professional goals.
* **Research and Conferences:** Authored and published **research papers**, contributing to academic discourse and advancing knowledge in specialized domains. Actively participated in and organized **conferences**, creating opportunities for knowledge sharing, networking, and professional development within the academic community.
* **Recognition and Awards:** Council of Scientific & industrial research grant travel award, June 2008 Presented paper in Nice, France: Saraf G, Saraf MK, Implication of neural network model for prediction of memory deficit: The comparison of neural network model with conventional statistical models in 18th Meeting of the European Neurological Society, Nice, France, June 7-11, 2008.

**Gian Jyoti Institute of Management & Technology** • Mohali India • 05/2005 – 06/2007, Senior Lecturer

* **Curriculum Development and Compliance:** Designed, developed, and regularly updated source syllabi to align with evolving academic frameworks and course plans for MBA and MCA programs. Collaborated with professors and school administrators to evaluate and enhance management program performance, ensuring quality education and alignment with industry standards.
* **Teaching and Subject Expertise:** Delivered engaging and comprehensive lectures each semester for both undergraduate and graduate students on critical subjects, including **C Programming**, **C++ Programming**, **Management Information Systems (MIS)**, and **Software Engineering**. Adopted interactive teaching strategies, integrating real-world case studies and hands-on programming exercises to bridge the gap between theoretical concepts and practical applications.
* **Student Engagement and Mentorship:** Fostered meaningful relationships with students through academic advising, mentoring, and personalized support, contributing to their academic and professional success. Encouraged and guided over 100s of students to participate in **research papers**, **seminars**, and **group discussions**, boosting their confidence and fostering a culture of collaborative learning.
* **Lab Session Facilitation:** Supported and supervised **computer lab sessions**, providing hands-on assistance to help students achieve learning objectives and enhance their technical comprehension. Ensured a structured, goal-oriented approach to lab sessions by offering individualized support and addressing technical challenges.
* **Research and Conferences:** Authored and published **research papers**, contributing to academic discourse and advancing knowledge in specialized domains. Actively participated in and organized **conferences**, creating opportunities for knowledge sharing, networking, and professional development within the academic community.

**IMS Unison University**• Dehradun, India • 01/2003 – 06/2005, Lecturer

* **Program Evaluation and Improvement:** Collaborated with professors and school administrators to comprehensively evaluate the performance and structure of the MBA program, ensuring alignment with academic standards and industry requirements. Provided strategic recommendations to enhance curriculum effectiveness, student outcomes, and overall program delivery.
* **Teaching and Subject Expertise:** Delivered dynamic and interactive lectures for undergraduate and graduate-level MBA and MCA students on core subjects, including Management Information Systems and Software Engineering. Leveraged modern teaching techniques such as case-based learning, interactive simulations, and collaborative group projects to deepen student understanding and engagement.
* **Internship and Career Guidance:** Facilitated communication of internship and job opportunities to over 20 students, ensuring they were well-informed and prepared for professional development opportunities. Assisted students with resume reviews, interview preparation, and industry networking to enhance their employability and career readiness.
* **Program Material Updates:** Coordinated updates to program materials, ensuring they remained relevant, accurate, and reflective of current industry practices and academic advancements. Worked closely with faculty to incorporate new case studies, research findings, and emerging technologies into the curriculum.
* **Student Engagement and Advising:** Established strong, trusting relationships with graduate and undergraduate students through academic advising and personalized guidance, fostering a supportive and productive learning environment. Engaged students in lively class discussions, encouraging critical thinking, creativity, and collaborative problem-solving.
* **Admissions Support:** Assisted in the admissions process by evaluating applications, conducting interviews, and providing prospective students with insights about the programs and opportunities available. Worked closely with admissions teams to ensure a smooth onboarding experience for new students.
* **Event and Conference Organization:** Played a key role in organizing conferences and annual events, fostering opportunities for students to showcase their skills, connect with industry leaders, and participate in professional networking. Collaborated with students to plan engaging activities, ensuring seamless event execution and enhancing the overall academic experience.

**Honors-Awards**

* Innovation Award was presented by Basic Science II department at UTMB for creating a financial tracking and reporting system in Jan 2014
* Council of Scientific & industrial research grant travel award, June 2008
* Presented paper in Nice, France.  
  Saraf G, Saraf MK, Implication of neural network model for prediction of memory deficit: The comparison of neural network model with conventional statistical models in 18th Meeting of the European Neurological Society, Nice, France, June 7-11, 2008.