

Biography of Bharath Girirajan

Personal Information:

Bharath Girirajan, a dedicated Master's student in Business Analytics and Project Management at the University of Connecticut, brings over three years of professional experience in data analytics, machine learning, and project management. Passionate about leveraging technology to drive innovation, Bharath specializes in deploying advanced analytics solutions to solve complex business challenges.

He can be contacted via email at bharath.girirajan@uconn.edu or connected on

<https://www.linkedin.com/in/bharath-karthick/>

GitHub: <https://github.com/Bharath0726>

Summary:

Bharath has a proven track record of developing and deploying machine learning models, including building an LLM-based cryptocurrency chatbot that improved prediction accuracy by 15%. With certifications in Power BI, Azure, and Oracle, he is skilled in utilizing tools such as LangChain, AWS, and PostgreSQL. His expertise lies in combining technical and analytical skills to generate impactful insights and optimize performance across diverse domains.

Education:

- **Master of Science in Business Analytics and Project Management**
University of Connecticut, School of Business (Aug 2023 – Dec 2024)
- **Bachelor of Engineering in Electronics and Communication**
Anna University, Chennai, India (Sep 2017 – Jun 2021)

Technical Skills:

- **Programming Languages:** Python, Java, MS-Excel.
- **Databases:** PostgreSQL, Oracle SQL developer.
- **Cloud and Big Data Platforms:** Azure (Blob Storage, Data Factory, Data Lake), AWS (S3,RDS, EC2).
- **Techniques:** Machine Learning, Exploratory Data Analysis, Neural Networks, NLP, WebScraping,Hypothesis, Time Series
- **Large Language Models & APIs:** OpenAI GPT APIs (GPT-3, GPT-4), Hugging Face Transformers, LangChain.
- **Business Intelligence Tools:** Power BI, Tableau, Visio, Matplotlib, seaborn.
- **Certifications:** Microsoft Certified Power BI Analyst (PL-300), Microsoft Azure Fundamentals (AZ-900), Oracle Certified Associate (1Z0-808)

Work Experience:

Database Administrator Intern
May 2024

Jan 2024 -

Allied Health Science Department, University of Connecticut, Storrs

- Cleaned and standardized over 10,000 student records from multiple sources using Python, improving data accuracy by 25% and established an automated data flow system to streamline data integration.
- Designed and deployed a Power BI dashboard that provided real-time insights into student performance, leading to a 15% increase in identifying at-risk students and improving support intervention strategies.
- Built and documented a comprehensive data dictionary and back-end architecture for long-term department use, streamlined manual data processing time by 40% and enhancing data-driven decision-making across departments.

Cognizant Technology Solutions, Chennai (Client: Incomm Payments, Atlanta,USA)

Oct 2021-Jul 2023

Programmer Analyst

- Collaborated with cross-functional teams to analyze user requirements, design database schemas, and develop SQL queries, resulting in a 20% increase in payment gateway efficiency.
- Functioned within a 10-member project in a fast-paced Agile environment, orchestrating seamless application deployments across all release environments.
- Pioneered the design and implementation of top-tier REST- based API solutions in Java, powering applications such as SCAN Reload (barcode generation for POS terminals) and Remote Deposit Capture.
- Enhanced security by mitigating URI-based threats through the implementation of regex expressions across multiple applications, achieving a 100% reduction in security vulnerabilities.

Netzwerk Academy, Bangalore.

Aug 2020 –

Mar 2020

Python Instructor, Intern

- Taught advanced Python concepts to 20+ students, resulting in a 95% improvement in understanding and application of Pandas, Matplotlib/Seaborn, and statistical analysis.

Key Projects:

- **Cryptocurrency Chatbot Development:** Built an LLM-based chatbot for real-time market signaling using LangChain and Hugging Face.
- **Insurance Premium Prediction:** Developed a machine learning pipeline with Docker integration, achieving an R² score of 0.92.

Hobbies and Interests:

- **Sports:** Cricket enthusiast and admirer of MS Dhoni and Chennai Super Kings.
- **Music:** Aspires to learn ghatam and enjoys exploring Tamil movies like "Maharaja."
- **Languages:** Learning Hindi and Telugu to expand cultural understanding.

Certifications: Microsoft Certified Power BI Analyst (PL-300), Oracle Certified Associate (1Z0-808), Microsoft Azure Fundamentals (AZ-900), Azure AI Fundamentals (AI-900), and Microsoft Azure Data Fundamentals (DP-900).

Status:

Bharath is actively seeking opportunities in data analytics, project management, and machine learning to further develop his skills and contribute to impactful projects.

Girlfriend: Haritha Gokul works as operational analyst at M2P Fintech.

ACADEMIC PROJECTS:

Cryptocurrency Chatbot Development (Tools: Python, Hugging Face Transformers, LangChain, Docker, Streamlit)

- Engineered an LLM-based chatbot to analyze **100,000+ minute-by-minute cryptocurrency data points** for real-time market signaling and predictions. Enhanced models that improved market prediction accuracy by **15%** over baseline.
- Launched on AWS using Docker, with a Streamlit interface for user interaction. Leveraged LangChain and Hugging Face Transformers for language understanding and real-time API integration. Implemented **Docker** for containerization and oversaw **500+ successful API calls** per day using **LangChain** and **Hugging Face Transformers**.

Insurance Premium Prediction MLOps Project (Tools: Git, MLflow, AWS EC2, Docker)

- Constructed a machine learning pipeline to automate insurance premium prediction using models like LinearRidge, XGBoost, and CatBoost, achieving an R² score of 0.92.
- Integrated Docker for containerization on AWS EC2, ensuring smooth version control and deployment of the model; this approach decreased server downtime by 50%, ensuring consistent service availability.

Real-Time Human Movement Detection Using Raspberry Pi (Research Study)

- Developed real-time systems with 95% face recognition accuracy and person counting using Raspberry Pi. Pioneered human movement detection research was published in the "[Turkish Online Journal of Qualitative Enquiry](#)".
- Implemented cloud-based image storage and email notifications and leveraged insights from notable research references in the development of both projects, demonstrating strong technical proficiency.
- Led a 5-member team in achieving exceptional results, surpassing a 90% accuracy rate in movement detection; demonstrated adaptability, ingenuity, and the ability to foster effective teamwork for impactful outcomes.

Professional Details

Skills in Action:

- Leveraged **Python** and **SQL** to clean and integrate over 10,000 student records, improving data accuracy by 25%.
- Designed a cryptocurrency chatbot using **LangChain** and **Hugging Face**, achieving a 15% improvement in prediction accuracy.
- Created a Power BI dashboard to analyze student success metrics, leading to a 15% increase in identifying at-risk students.
- Demonstrated exceptional proficiency in **Java development**, delivering high-quality results and meeting sprint milestones effectively in Agile projects.

Career Goals:

- Aspires to become a leader in **Business Analytics** and **Artificial Intelligence**, creating innovative solutions for real-world challenges in **healthcare**, **finance**, and **e-commerce**.
- Dedicated to mastering **large language models (LLMs)** and **cloud platforms** to stay at the cutting edge of technology.

Achievements:

- Spearheaded the development of a machine learning pipeline for insurance premium prediction,

achieving an R^2 score of **0.92**.

- Published research on **human movement detection** using Raspberry Pi in the **Turkish Online Journal of Qualitative Inquiry**.
- Certified as a **Microsoft Power BI Analyst** (PL-300) and **Azure Fundamentals** (AZ-900).

Work Philosophy:

- Combines a data-driven mindset with creative problem-solving to deliver impactful analytics solutions.
- Strong advocate for leveraging technology to enhance business decision-making and optimize operational efficiency.

Professional Testimonials:

- *"I had the pleasure of working with Bharath on our FSAPI team, and I wholeheartedly recommend his skills and contributions. Bharath consistently delivered exceptional results during his time on the team. He displayed a deep understanding of Java development and completed all tasks on time, contributing significantly to our project's success. His dedication to meeting project milestones and his ability to work effectively within the confines of each sprint were truly impressive."*
— Dwiz Kumar, Lead Software Engineer at InComm Payments
- *"Bharath's innovative use of machine learning models has significantly improved our decision-making process."*
— Mentor at Allied Health Science Department
- *"A true team player with an exceptional ability to tackle complex data challenges."*
— Peer at Cognizant Technology Solutions

Thought Leadership:

- Regularly contributes to discussions on **cryptocurrency market trends** and **ML techniques** via LinkedIn posts.
- Presented findings on data visualization and model optimization at university workshops.

Current Projects and Tools:

- Developing **TradeGPT**, an LLM-powered chatbot for cryptocurrency trading, utilizing tools like **Groq API** and **LangChain**.
- Exploring **Dify** and **Gemini** for RAG-based generative AI applications in OPIM 5894 lab.

Personal Details

Hobbies and Interests:

- **Cricket Enthusiast:** A passionate fan of cricket, particularly admiring **MS Dhoni** and the **Chennai Super Kings**. Enjoys playing cricket with friends and following **IPL** matches.
- **Music Lover:** Aspires to learn the **ghatam**, a traditional Indian percussion instrument, and enjoys exploring Tamil music and movies.
- **Cinema Enthusiast:** Loves Tamil cinema, with favorites like the movie "**Maharaja**", appreciating its storytelling and cultural impact.

Cultural and Linguistic Interests:

- **Languages:** Actively learning **Hindi** and **Telugu** to expand cultural understanding and improve communication. Focused on conversational fluency and day-to-day usage.
- **Multicultural Appreciation:** Combines the love for Tamil traditions with an openness to learning about and engaging with diverse cultures.

Fun Facts:

- **Foodie:** A big fan of **chicken biryani**, especially when made by your mom—nothing beats homemade comfort food!
- **Adventurer:** Enjoys exploring new places and is excited to experience the beauty of **fall colors in New Hampshire**.

Daily Motivation:

- Believes in staying curious and embracing challenges, with a mantra of "**Stay curious, keep learning, and push boundaries.**"

Personal Connections:

- In a relationship with **Haritha Gokul**, who works as an **Operational Analyst at M2P Fintech**, sharing a mutual interest in data-driven problem-solving and growth.