



SHREERAJ BHAT

Associate Technical Lead

PROFILE

Experienced professional with over 8 years in advanced technology, application development, system design, GenAI and cloud technologies. Seeking to leverage my skills in a Research and Development role to drive innovation and engineering excellence at your esteemed company. Committed to contributing to cutting-edge solutions and growth.

EDUCATION

Shri Madhwa Vadiraja Institute of Technology & Management, Udipi (VTU)

2013-17 (B.E, Computer Science)

CONTACT

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COUNTRIES TRAVELLED

Singapore, Thailand & Indonesia

LANGUAGES KNOWN

English, Kannada, Hindi & Tulu

LinkedIn -

<https://www.linkedin.com/in/shreeraj-bhat-62703268/>

Git - <https://github.com/shreeraj04>

WORK EXPERIENCE

Tetherfi – Associate Technical Lead

July 2024 – Current

- Enhanced gadget detection in SWFH solution by fine-tuning **YOLOv9**-small models over multiple training iterations, achieving over **89%** detection accuracy across **12 custom classes**.
- Built an optimized **Speech-to-Text (STT) and diarization** solution for batch processing; evaluated Whisper, Faster-Whisper, ultimately deploying a solution that transcribes, translates and diarizes a 5-minute audio file in under **~30 minutes** using large models.
- Developed a scalable **LLM wrapper** acting as an abstraction layer for summarization, chat, RAG and sentiment analysis as of now, with **client-wise metrics** tracking — enabling usage reporting across different models and clients.
- Led the "**Tetherfi Innovate**" internal hackathon, organizing a 3-week event with **95+ participants** across 12 teams, significantly boosting internal R&D engagement and innovation.
- Key contributor **to R&D strategy**, collaborating directly with Pre-Sales, Director of Technology, and Tech Architecture teams to drive innovation pipelines and strategic product advancements.
- Demonstrated advanced monitoring and alerting capabilities by piloting integrations with **Sentry, Grafana, and SonarQube**; successfully transitioned SonarQube into the release pipeline, reducing pre-release code errors by 30%.
- Managing and mentoring a team of 4.

Cactus Communications - Senior Software Engineer

July 2022 – July 2024

- Resolved complex product issues for Hubble**, including reducing processing time by 60% for the error marking module and introducing PDF file support through Mathpix integration.
- Played a key role in developing comprehensive solutions** by participating in a hackathon with GCP Vertex AI and architecting the **Integrity Checks solution**, which now handles over hundreds of requests simultaneously and supports bulk ZIP file uploads.
- Extensively utilized AWS Cloud services for both Hubble and Integrity Checks solutions**, demonstrating hands-on experience with cloud architecture and integrating live GPT/LLM models (OpenAI and Minotaur – in house). Led the development of the Integrity Checks solution entirely on AWS.
- Mentored freshers and interns**, fostering a collaborative environment to nurture talent and drive skill development.

Tetherfi – Senior Software Engineer – R & D

July 2021 – June 2022

- **Led multidisciplinary projects in human-computer interaction and face authentication**, including developing a proof of concept for an eKYC solution with OCR, achieving **75%-80%** accuracy for Aadhaar cards, and handling **30-40** requests per second for face authentication.
- **Managed and led a team** of 1-3 members, fostering a collaborative and productive work environment.
- **Conducted market research and iteratively enhanced product features**, aligning them with customer feedback and market needs.

Tetherfi – Software Engineer – R & D

July 2017 – June 2021

- Evaluated project plans and proposals for feasibility, ensuring alignment with strategic business objectives and technology roadmaps.
- Applied theoretical expertise to develop innovative solutions across domains like augmented reality, human-computer interaction, and **face authentication**.
- Enhanced and modified existing software systems to improve performance, adapt to new hardware, and resolve critical issues.
- Developed and enforced performance standards, contributing to successful delivery of **multidisciplinary R&D initiatives**.

TECHNICAL SKILLS

- **Programming Languages:**
 - Proficient in Python
 - Prior experience in C# .NET, JavaScript and NodeJS.
- **Technologies, Frameworks and Libraries:**
 - Skilled in Docker, Flask, FastAPI, Sentry, boto3, unittest, pytest, Prompt Engineering, transformers, object detection, speech to text, GenAI and related technologies.
 - Familiar with Unicorn, aiohttp, Grafana Loki, ELK, Windows Services, MVC, WebSockets, RASA, OCR, ORM, Jenkins, Redis, AI/ML and related technologies.
- **Tools:**
 - Proficient in GIT, VS Code, Postman, Visual Studio, MSSQL Server, AI tools and PgAdmin.
 - Familiar with Terraform (IaC)
- **Operating System:**
 - Experienced with Linux distributions (Redhat, Ubuntu) and Windows.
- **Databases:**
 - Proficient in DynamoDB.
 - Prior experience with PostgreSQL, MSSQL, and SQLite.
- **Cloud Platforms:**
 - Extensive experience with AWS, including building monolithic, serverless, and microservice architectures.
 - Some exposure to Google Cloud Platform (GCP).

FEW MAIN PROJECTS WORKED

1. **SWFH Gadget Detection Enhancement – TETHERFI**
 - **Role:** ML Engineer
 - **Technologies:** Python, YOLOv9-small, PyTorch
 - **Description:** Fine-tuned object detection models on a custom dataset, boosting classification accuracy to 89% across 12 classes, improving detection efficiency.
2. **STT + Diarization Pipeline – TETHERFI**
 - **Role:** Architect & Developer
 - **Technologies:** Faster-Whisper, Pyannote, Python

- **Description:** Designed and deployed an end-to-end transcription, translation and diarization solution that processes 5-minute audios within ~30 minutes, significantly improving processing speed for batch workflows.
- 3. **LLM Service Wrapper – TETHERFI**
 - **Role:** Solution Lead, Developer & Architect
 - **Technologies:** Python, HuggingFace models, FastAPI
 - **Description:** Built a flexible middleware that supports multiple use cases (summarization, chat, sentiment) with client-wise metrics logging and dynamic model routing.
- 4. **TTS Solution for Dynamic Voice Selection – TETHERFI**
 - **Role:** Developer
 - **Technologies:** Python, Coqui TTS, VITS models etc.,
 - **Description:** Built a low-latency text-to-speech service that returns audio output within ~2 seconds for short text inputs, supporting multiple voices and models selection.
- 5. **Hubble – CACTUS COMMUNICATIONS**
 - **Role:** Developer
 - **Technologies:** Python, AWS
 - **Description:** Developed a modular manuscript and research paper correction tool with an extensible AWS architecture, allowing flexible customization for diverse client requirements.
- 6. **Integrity Checks – CACTUS COMMUNICATIONS**
 - **Role:** Solution Lead, Developer
 - **Technologies:** Python, AWS, Terraform
 - **Description:** Led the design and development of a scalable document validation platform featuring independent publisher-specific checks, some powered by LLMs; introduced bulk support functionalities to enhance throughput and efficiency.
- 7. **Generative AI Features (Copilot) – CACTUS COMMUNICATIONS**
 - **Role:** Developer
 - **Technologies:** Python, GenAI, AWS
 - **Description:** Contributed to the development of Generative AI-driven research assistance tools within Paperpal (paperpal.com), including title generation, summarization, and productivity-enhancing features for academic users.
- 8. **Conversational AI Bot & Hidden Agent – TETHERFI TECHNOLOGIES**
 - **Role:** Developer
 - **Technologies:** Python, RASA
 - **Description:** Built a machine learning-driven conversational AI framework using RASA for both text and voice-based interactions; developed a Hidden Agent app enabling on-the-fly training and model enhancement.

ACHIEVEMENTS

- Selected & participated in the National Level Smart India Hackathon organized by Govt. Of India in 2017 during B.E final year.
- Honoured with the "Always On" award during Tetherfi's 10th-year anniversary program in October 2019. Recognized for proactive task completion ahead of deadlines and exceptional responsiveness with peers.
- Received the "Best Project" and "Best Team" award at Cactus during the Quarterly Awards and Annual Awards respectively.

All information in this resume is true and correct to the best of my knowledge and belief.

Shreeraj Bhat
