VILAL ALI

Designing Robust Systems & Crafting Reliable Code

📞 +91 9984736691   @ vilal.ali@research.iiit.ac.in   ✉ belaal.ali@gmail.com   ⏺ vilalali   in vilal-ali

EXPERIENCE

Over 5+ years of experience in software engineering, technology leadership, and working with cutting-edge technologies.

Sr. Software Engineer (Full Stack)

IHub Data, IIIT-H

📅 Feb 2023 – Ongoing   📍 Hyderabad, IN

- **System Design and Architecture:** Designed scalable, high-level systems and microservice architectures for the Data Foundation platform, ensuring robustness and modularity.
- **Coding and Development:** Delivered clean, scalable, and efficient code to support large-scale systems and improve performance. Performed full-stack development, integrating tools and frameworks to enhance functionality and maintainability.
- **Code Review and Training:** Led code reviews to enhance code readability, scalability, and reusability, while mentoring the team.
- **Tool and Framework Integration:** Integrated advanced tools and frameworks into existing platforms to enhance functionality and scalability.
- **Team Leadership and Agile Practices:** Managed cross-functional teams using Agile methodologies and Jira Atlassian tools, streamlining workflows and resolving bottlenecks to enhance team efficiency by 30%, while providing SME-level guidance on hosting issues, logins, and server upgrades.
- **Documentation:** Authored detailed technical documentation for proprietary software, reducing orientation time for new hires by 50%.

Sr. Software Engineer & UI/UX

eBhasha Setu, CIE, IIITH

📅 April 2019 – Feb 2023   📍 Hyderabad, IN

- I worked on developing, deploying, and maintaining various tools. I increased the accuracy of an HMM-based transliteration system for Urdu-Hindi machine transliteration, which Rekhta now uses for their transliteration system.
- I worked on the SWAYAM project, MHRD, where we designed Videozaar, a video transcript generation and editing platform with subtitle synchronization support for multiple Indian regional languages.
- Led a team of 4+ in developing the Avatar OCR Translation System for the Bhashini Challenge, aimed at digitizing and translating government documents in regional languages. Utilized tools like indicOCR and SWAYAM MT, designed system architecture, and documented Architecture Decision Records. Won 1st prize in the competition.
- The technologies employed here include Python, SciPy, NumPy, Pandas, Django, Flask, JavaScript, MySQL and MongoDB.

Research Intern

CVEST Research Center, IIITH

📅 Sept 2018 – April 2019   📍 Hyderabad, IN

- Created Desktop application using electron JS, HTML, and CSS.
- Created a Flask-based full-stack website for CVEST.
- Designed back-end and front-end structures for the Desktop application will be installable for Debian-based Linux OS.

EDUCATION

PGSSP in Software Engineer

IIIT Hyderabad

📅 Jan 2024 – May 2024

PGSSP in System Software Development

IIIT Hyderabad

📅 July 2020 – Dec 2020

Master of Computer Applications (MCA)

Institute of Engineering & Technology

📅 Aug 2012 – May 2015

B. Sc. in Computer Science

Lucknow University

📅 July 2007 – May 2010

STRENGTHS

React.js   React Native   Redux   HTML5
Tailwind   JavaScript   Node.js   Express.js
MySQL   NoSQL   FastAPI   RESTful APIs

High-level   Low-level System Design
Microservices Architecture   SOA   EDA
Distributed Systems   Redis   MPI   gRPC

Python   Flask, Django   NumPy   Pandas
TensorFlow   PyTorch   SciPy   Plotly
NLP   OCR   ASR   LSTM

Git, GitHub   GitLab   Grafana   SonarQube
Jenkins   CI/CD   Docker   Kubernetes
Kafka   Nginx   Apache2   AWS   Azure

Agile   Scrum   Code Review   Mentorship

Problem Solving   Communication   Creativity

PROJECTS

Data Foundation System

📅 IHub-Data - 2024

- Designed and implemented the architecture for the Data Foundation platform, converting it into microservices.
- Developed and integrated core services: Authentication, Authorization, Payment, and Large File Download/Upload.
- Successfully aligned all microservices with the core platform, enhancing scalability and maintainability.

Histopathology Viewer for Large File Visualization

📅 IHub-Data - 2023

- Developed a leaderboard system for the Machine Learning Challenge platform to track and rank participant performance.
- Integrated the Histopathology Viewer as a microservice into the core Data Foundation platform.
- Enhanced the platform's capability to handle large-scale medical image datasets with optimized performance.

Machine Learning Challenge Platform

📅 IHub-Data - 2023

- Designed and built a large file viewer tool for TIF and brain scan images, enabling efficient visualization of high-resolution medical data.
- Integrated the leaderboard with Machine Learning Challenge Platform, ensuring seamless compatibility.
- Enhanced user engagement by providing real-time updates and analytics on challenge outcomes.

Urdu-Hindi Machine Transliteration using HMM, Giza++

- Creating the Parallel Corpora and training the System for Urdu-Hindi Machine Transliteration Engine.
- Worked with Statistical Machine Translation (SMT) and HMM.
- Perform preprocessing and post-processing on data and improve the accuracy of the model up to 98% on the word level.

Sampark Pipeline for Hindi to Urdu

- Assembled sampark pipeline using 18 ILMT modules.
- Set up a dashboard for validating the result of each module.
- Write a shell script and a python script.

Text Processing: Image2Text/OCR

- Setup TIKA Server and tesseract on Linux system.
- Create an API for that setup and designed web application.
- Integrate the APIs individually with the web.

Audio/Video Transcription Tool: Videozaar

- Built a web application using ASR engine to transcript the task.
- Write a FASTAPI to convert video into the audio format in the required format.
- Integrate ASR APIs with the Videozaar.

ACHIEVEMENTS

LANGUAGES

English
Hindi
Urdu

●●●●●
●●●●●
●●●●○

REFEREES

Prof. Krishna Reddy P.
@ Professor, DSAC Lab, IIIT-H
✉ pkreddy@iiit.ac.in
📍 Gachibowli, Hyderabad-500032

Amit Pandey
@ Project Manager, IHub-Data IIIT-H
✉ dfadmin@ihub-data.iiit.ac.in
📍 Gachibowli, Hyderabad

Dr. Rashid Ahmed
@ CEO, eBhashaSetu
✉ rashid@ebhashasetu.com
📍 CIE, IIITH, Gachibowli

Subtitle Synchronization

- Built a web application for synching the subtitle with the video for Indian Regional Languages.

Web Application Development

📅 Technologies Flask, Django, Nginx

- Designed from scratch using Python, Flask, and Django and deployed the application on the server using apache2, nginx.
Integrated Payment gateway APIs of Razorpay.
- Linguistic Society of India
- CVEST IIITH
- WinEducate
- Scholars' Nest School