

Vaibhav Singh

B.Tech and M.Tech Computer Science & Engineering
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Leetcode Profile
LinkedIn Profile

EDUCATION

- **National Institute Of Technology, Hamirpur** 2019-2024
B.Tech + M.Tech, Computer Science and Engineering CGPA: 8.28
- **VidyaGyan Sitapur** 2018
Senior Secondary School (XII), CBSE Percentage: 94.6

EXPERIENCE

- **Infosys Limited** July 2024 - Present
Specialist Programmer L2 Bangalore
 - Architected and developed an intelligent **agentic framework** for personalized learning platforms using **LangGraph** and LangChain
 - Implemented ML-driven features including dynamic course recommendation systems, adaptive quizzing algorithms, and AI-powered learning path optimization
 - Leveraged Large Language Models (LLMs), function calling, and conversational AI to create seamless user experiences
 - Developed a Retrieval-Augmented Generation (**RAG**) system using vector databases and LLMs for intelligent document querying and context-aware response generation.
 - Deployed **natural language processing** techniques for automated task understanding and execution
 - Impact: Achieved 40% increase in user engagement and 25% improvement in learning completion rates
- **Bosch Global Software Limited** Jan 2024 - June 2024
Student Trainee Bangalore
 - Developed machine learning algorithms for Advanced Driver Assistance Systems (ADAS) in autonomous vehicle parking
 - Implemented computer vision and sensor fusion techniques to resolve harsh braking issues using obstacle detection
 - Designed and optimized PID controller algorithms in C++ for smooth autonomous vehicle control
 - Enhanced localization accuracy using Kalman Filter implementation, improving performance from 80% to 95%

RESEARCH & PUBLICATIONS

- **Enhancing Graph Based Models for Automatic Program Repair** Publication Link
Published in: Soft Computing and Its Engineering Applications. icSoftComp 2024, Springer
 - Developed novel ML approaches for automated bug detection and program repair
 - Contributed to advancing the field of intelligent software engineering tools

PERSONAL PROJECTS

- **Language Translator** July 2022- Apr 2023
NMT based language translator for eng-hin translation
 - NMT based language translator for ENG-HINDI translation, achieving an 16-point BLEU score.
 - Developed it using OpenNMT, Anaconda, and Google Colab.
 - Trained a Long Short-Term Memory (LSTM) algorithm to refine model accuracy.
 - Conducted extensive hyperparameter tuning and model optimization using Google Colab and Anaconda
 - Research Output: Results contributed to published conference paper

TECHNICAL SKILLS

- **ML & AI:** TensorFlow, PyTorch, LangChain, LangGraph, Deep Learning, NLP, Computer Vision, LLMs
- **Languages & Data:** Python, C++, SQL, Spark, PySpark, Hadoop, Kafka, PostgreSQL, MongoDB
- **Cloud & MLOps:** AWS (SageMaker, EC2, S3), Azure ML, Docker, Git
- **Specializations:** Generative AI, Object Detection, Neural Networks, Research Publications