

Tirath Bhathawala

ASPIRING RESEARCHER · COMPUTER ENGINEERING STUDENT · AI ENGINEER

Mumbai, India

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“Determined AI researcher focusing on Explainability, LLMs, AI Agents and Multi-Modal systems; author on multiple peer-reviewed submissions.”

Education

SVKM's D. J. Sanghvi College of Engineering

B.TECH IN COMPUTER ENGINEERING (HONORS: INTELLIGENT COMPUTING) CGPA: 9.29 / 10.0

Mumbai, India

Nov 2022 – Jun 2026

Mumbai Junior College of Arts, Commerce and Science

HSC — SCIENCE (COMPUTER SCIENCE) 12TH: 91.5%, MHTCET RANK 719 / 200K+

Mumbai, India

Jun 2019 – May 2021

Experience

BrandContext.ai

Hybrid, Mumbai, India

- AI INTERN
- Finetuned an LLM-driven automation framework that generates and executes Playwright actions for web workflows (Looker Studio, Hootsuite).
 - Built AI-agent supervisor dashboards with dynamic graphs and real-time factory DBs for anomaly detection and conditional worker-input handling.
 - Productionized CV pipelines for retail (age/gender, queue, theft); fine-tuned YOLOv11 for multi-class detection (logo, furniture, security) for Xiaomi.
 - Implemented legally-compliant speaker-diarization pipelines for sales calls using SpeechBrain and ElevenLabs for robust speaker labeling and analytics.

Mar 2025 – Aug 2025

Indian Institute of Technology, Patna

Remote, Patna, India

RESEARCH INTERN (UNDER DR. PRABHAT BHARTI)

Oct 2024 – May 2025

- Designed MetaSearch, a search-augmented reasoning agent for meta-reviews combining disagreement detection with fact-grounded synthesis.
- Annotated 900+ ICLR reviews and built an LLM argumentation evaluation pipeline across Llama3.1 / Gemini2 / GPT-4o — Cohen's Kappa = 0.834.
- Proposed a heuristic framework (Cognitive Load & Discourse Analysis) to optimize peer-review length via information-density metrics.

Nvelop Technologies Oy

Remote, Helsinki, Finland

- AI INTERN
- Authored a whitepaper for LLM-based requirement generation; benchmarked DeepSeekR1, GPT4o, Gemini2.0, LLaMA3.2 on BLEU/Levenshtein/Jaccard.
 - Developed RAG pipelines in Azure PromptFlow for 50+ RFPs; optimized chunking/sampling to reduce perplexity $\approx 15\%$ and improved retrieval relevance.
 - Produced a comprehensive 70-page technical documentation mapping AI APIs (Insomnia) to frontend (NextJS) integration.

Aug 2024 – Feb 2025

UIUC+ Summer Research Program

Remote, Urbana-Champaign, USA

RESEARCH ASSISTANT (UNDER PROF. DARKO MARINOV)

Jun 2024 – Jul 2024

- Examined C to Rust transpilation challenges (VERT+5 papers), and analyzed LLM-generated code to categorize bugs, improving evaluation frameworks.

PavePilot AI

Remote, San Francisco, USA

PYTHON (LLM) DEVELOPMENT INTERN

Jun 2024 – Jul 2024

- Built an AI-driven marketing content pipeline: evaluated image models (BRIA, Stable Diffusion, Midjourney); produced platform-specific prompt guides.

Publications

Dynamic Optimization of Peer Review Length Using Information Density Analysis

[Scientometrics](#)

ACCEPTED 2025

BiasChain: A Multi-Agent LLM Framework for Justified Peer Review Bias Detection

[IJCNLP—AACL 2025](#)

UNDER REVIEW 2025

MetaSearch: Search-Augmented LLM with Reasoning for Consensus Resolution in Peer Review

[Scientometrics](#)

UNDER REVIEW 2025

Projects

DigniFy

[HuggingFace](#), [TensorFlow](#)

AI-POWERED MULTIMODAL HATE SPEECH DETECTION

2024

- Mobile app for multilingual hate detection (text/image/audio/video); fine-tuned DistilRoBERTa + custom CNN (hate symbols) and OCR + STT pipelines.
- Integrated an AI Agent that orchestrates models as tools and compared outputs across DeepSeek R1, GPT-4o, Gemini 2.0 and LLaMA 4.0 for evaluation.

Optima

[OpenCV](#), [FastAPI](#)

HEALTHCARE ANALYTICS SYSTEM

2024

- Real-time asthma inhaler usage analysis (posture detection, shake tracking, pump-to-face distance calculation) to provide patient behavior insights.

Skills

Coursework:	AI, ML, NLP, Deep Learning, Data Structures & Algorithms, OS, Advanced DBMS, Data Warehousing & Mining	Languages:	Python, C/C++, SQL, LaTeX, Java, Rust, JavaScript
Frameworks:	TensorFlow, Keras, PyTorch, OpenCV, NLTK, FastAPI, Transformers, HuggingFace, scikit-learn, Streamlit	Tools:	Azure AI, Google Cloud Platform, Docker, Linux, Overleaf, Git, Google Colab, Kaggle
Certifications:	CS50P (Harvard University), The Odin Project	Profiles:	CodeChef , LeetCode , HackerRank

Awards

2025	Selected Mentee, sktime Mentoring Program (Under Dr. Franz Kiraly)	International
2025	All India Rank 499 / 50K+, GATE Data Science & AI	India
2024	Rank 292 / 75K+, Amazon ML Challenge	India
2024	Top 100 / 1000+ Teams, Rajasthan Police Hackathon (ML Lead)	India
2024	Winner / 50+ Teams, CodeBounty 2024 (Competitive Programming)	Mumbai