

# Tirath Bhathawala

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## EDUCATION

<b>SVKM's Dwarkadas J. Sanghvi College of Engineering</b> <i>B.Tech in Computer Engineering (CGPA - 9.23)</i>	Mumbai, India 2022 - 2026
<b>Mumbai Junior College of Arts, Commerce and Science</b> <i>HSC (12th Boards - 91.5%, MHTCET - 99.5%)</i>	Mumbai, India 2019 - 2021
<b>IES Orion</b> <i>ICSE (10th Boards - 96.8%)</i>	Mumbai, India 2009 - 2019

## EXPERIENCE

<b>PavePilot AI</b> <i>Python (LLM) Development Intern</i>	June 2024 - July 2024
<ul style="list-style-type: none"><li>Developed an automated workflow to generate personalized posters for content creators, enhancing the visual appeal and engagement of their blog posts</li></ul>	
<b>UIUC+ Summer Research Program</b> <i>Research Assistant</i>	May 2024 - Current
<ul style="list-style-type: none"><li>Investigated the challenges and potential solutions in C to Rust translation by summarizing 5+ research papers (VERT, Lost in Translation, etc.) and analyzing the results of well-known transpilers and CodeLLMs</li><li>Evaluated the quality of LLM-generated code by identifying and documenting potential bugs in the generated code snippets. This work will be used to inform future research on LLM-generated code quality</li></ul>	
<b>DJS SYNAPSE</b> <i>ML Intern</i>	September 2023 - August 2024
<ul style="list-style-type: none"><li>Working on a research paper in music generation leading to strong academic writing and information literacy skills</li></ul>	

## PROJECTS

**Optima** | *OpenCV*

- Optima revolutionizes healthcare by offering real-time detection and analysis of human posture and actions, specifically targeting asthma pump usage, to provide precise insights into patient behavior and enhance treatment outcomes
- Spearheaded the development of precise features such as posture detection, shake tracking, pump-to-face distance measurement, and personalized treatment insights, enhancing healthcare monitoring and patient engagement

**RakshakRita** | *BERT, nltk, seaborn, matplotlib, networkx, plotly*

- RakshakRita is a QR-based Police Feedback System, empowering citizens to voice their opinions on policing
- Implemented NLP tasks like language translation, zero-shot classification, spam detection, chatbot creation and sentiment analysis. Crafted dynamic feedback reports on police stations using interactive heatmaps

**ML and CV Fundamentals** | *tensorflow, keras, pandas*

- Implemented deep learning models for medical image segmentation using the RSNA Breast Cancer dataset (pydicom, torchvision)
- Developed computer vision algorithms for object detection and image classification (CNN) (Oxford-IIIT Pet, MNIST, CIFAR10)
- Implemented machine learning models such as Decision Tree Classifier, Random Forest, Bagging & Boosting (Titanic Dataset)
- Developed a YouTube thumbnail sentiment analyzer (selenium, fastapi, streamlit, huggingface)

## TECHNICAL SKILLS

**Programming Languages:** C/C++, Python, Java, HTML/CSS, JavaScript, SQL, React, Rust

**Tools:** Linux, Git, Kaggle, Google Colab, Docker

**Frameworks/Technologies:** Streamlit, Tensorflow, Keras, OpenCV, Flask, PyTorch, NLTK, AzureAI

**Relevant Coursework:** Data Structures, Analysis of Algorithms, Database Management System, Operating System, OOPS

## ACHIEVEMENTS

Winner in CodeBounty, a college competitive programming contest

Finalist in the Rajasthan Police Hackathon 2024 (ML Lead)

Finalist in the Gujarat G20 Summit Hackathon 2023 (ML Lead)