RUSHIRAJ GADHVI

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EDUCATION

B.Tech in Computer Science and Artificial Intelligence	Plaksha University, Mohali	2025
12th	Gujarat Board	Edunova Science Higher Secondary School, Ahmedabad	2021

SKILL

Programming Languages: Python [PyTorch, scikit-learn, spaCy, NLTK, Tensorflow], Dart, C++, MATLAB, JavaScript, SQL
Frameworks: Docker, Flutter, Flask, Django, Bootstrap   **Other:** GCP, Bash Scripting, Git, Postman, Firebase, MongoDB

EXPERIENCE

Selected Contributor | Google Summer of Code 2024   *May - Aug, 2024*
- Contributed to NUMFOCUS, QuTiP: Enhanced Quantum Circuit Diagrams (*Project Webpage*).
- Improved the visualization tools for quantum circuits in the open-source QuTiP library, widely used in quantum information research.

BlinkX by JM Financial, Mumbai | *Data Science Intern*   *Jun - Aug, 2024*
- Designed and developed an end-to-end pipeline for extracting application feature-based opinions from customer reviews to support strategic decision-making using LLMs and NLP based clustering techniques.
- Enhanced the existing ChatBot by integrating LLMs and RAG techniques to improve its ability to handle complex queries and deliver more natural, human-like interactions.

Physical Research Laboratory (PRL), Ahmedabad | *Research Intern*   *Jun - Jul, 2023*
- Conducted precise fine-tuning of model and composition analysis of spectral data using statistical techniques.
- Designed and implemented a Python-based spectrum visualization platform to make the analysis process quicker.
- Gained expertise in research methodology, meticulous data collection, and thorough data analysis, emphasizing strong attention to detail.

MADIEE | *Game Designe Intern*   *Jan - Apr, 2022*
- Crafted impactful game mechanics that improved employee performance for client companies by leveraging a deep understanding of human response dynamics and gamification principles.
- Gained valuable insights into the significance of User Experience (UX) in product design and the principles of Behavioral Psychology.

SCHOLASTIC ACHIEVMENTS

- Selected for **Google Summer of Code 2024 @NUMFOCUS** | One amongst **1,220 selected globally,** out of **43k+ applicants**
- **AWS AI & ML Scholar Advance 202**4 | One amongst **500 selected globally**
- **AWS AI & ML Scholar 2023** | One amongst **2,000 selected globally**, out of **70,000+** applications
- **UN Millennium Fellowship 2022** | One amongst **3,000 selected globally**, out of **31,000+** applications
- **1st rank** amongst **190+** teams at **IIT Bombay E-Cell** BnB (Bid and Build) Event - 2022
- Selected by **Student Startup and Innovation Policy (SSIP), Gujarat** amongst **200+** projects - 2020
- Pitched at **International Conference ICOSTART'19** (International Research Conference on Innovations, Startups and Investments)

PROJECT CONTRIBUTION

*AdaptAI**(LLM, VLM, Python, ECG)*
A multimodal AI system integrating egocentric vision, audio, ECG data, and delivering personalized productivity and well-being support. AdaptAI offers tailored health interventions to improve users' physical state and a tone-adaptive conversational agent to enhance psychological well-being, all boosting workplace productivity. In a preliminary study with 15 participants, AdaptAI improved task throughput and user satisfaction by anticipating stressors and streamlining workflows.

PosePilot *(Python, PyTorch)*
PosePilot is a real-time **pose correction system for physical exercises,** particularly Yoga. It integrates pose classification and posture correction to help practitioners achieve **proper postures** and **avoid injuries**. Trained on videos from reputable yoga practitioners, PosePilot uses LSTM and Bi-LSTM models with Multihead Attention for accurate sequential modeling and error detection. The system provides automatic posture classification and utilizes novel technique for providing **corrective feedback**, making it a practical tool for real-world applications.

Therapia - Parkinson Analysis App *(Flutter, Flask, Python, PyTorch)*
Developed a smartphone application to gather **vibration information** from individuals with Parkinson's disease. Utilized builtin sensors like accelerometer and gyroscope. Employed **Machine Learning to identify patterns in the impact of user medication**.Nominated for prestigious **S.P.Dutt Award**.

PUBLICATION

(2025) AdaptAI: A Personalized Sol to Sense Your Stress, Fix Your Mess, and Boost Productivity [accepted CHI25][*arXiv*]
(2025) PosePilot: A Novel Posture Correction System Leveraging BiLSTM and Multihead Attention [submitted]
(2024) QuTiP v5: The Quantum Toolbox in Python [submitted][*arXiv*]
(2025) Efficiently Navigating Turbulent Flow using ASV [in preparation]