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## ***Sayan Dey***

***Machine Learning Engineer***

+91 9614955330 | [Portfolio](https://sayandey-hcyv.onrender.com/#TalkToMyResume) | [mr.sayan.dey@gmail.com](mailto:mr.sayan.dey@gmail.com) | <https://linkedin.com/in/sdey> | Hyderabad, India (IN)

Proficient in Programming(python), ML Algorithms. Seeking a role to delve deeper and solve real-world challenges. **AI-based Q&A facilitated Portfolio Website**: <https://sayandey-hcyv.onrender.com/#TalkToMyResume>

***Education***

*B.Tech, Computer Science & Engineering (****CGPA 9.1****) | National Institute of Technology, Rourkela | 2017-2021*

***Skills***

**Programming Languages / Frameworks:** Python(Proficient), C++(Intermediate), Sklearn, Keras, PyTorch

**Tools:** Github actions CI/CD, Docker, MongoDB, Streamlit

DSA & Algorithm, Machine Learning, Neural Networks, Deep Learning, Natural Language Processing (NLP), Computer Vision, LLMs, Bagging-Boosting, Recommendation System, Topic Modelling, Object-oriented Programming (OOPs)

***ExperienceSoftware Engineer | Qualcomm | Hyderabad IN | June 2021 to current***

* Increased test automation by 50% on USB testing, streamlining regression testing and reducing external bugs.
* Boosted system power testing (10x faster), uncovering stability issues through extensive corner case coverage.
* Spearheaded testing for cutting-edge USB4 features, ensuring back compatibility with older test suites.

***Machine learning Intern | Qualcomm | Remote | May 2020 to August 2020***

* Built & deployed high-recall log anomaly detector with 68% accuracy, leveraging LSTM & tree-depth parsing.
* Optimized sequence length through cross-validation and balanced recall & precision through ROC analysis.

***S/W Engineering Intern | Continental | Kolkata IN | May 2019 to July 2019***

* Rebuilt a socket programming project in Golang, leveraging multithreading for improved performance.
* Mastered NoSQL database management (MongoDB) with proficiency in Bson data format.

***Achievements***

* HackTheBuild Hackathon **(Top 8)**: Built an ML web app for optimizing India's COVID vaccine distribution strategy.
* **Qualcomm Impact Award 2023**: Recognized for automating USB4 validation workflows on new software product

***Machine Learning Projects*** ( <https://github.com/sayan1999> )

* **Image Reverse Search with Google’s EfficientNet and Facebook’s FAISS library** optimizing search efficiency through fast image embeddings and approximate nearest neighbor algorithms | Training speed: 65k images efficientnet-b2: 4 mins vs Resnet-152: 10 mins | CI-CD, Computer Vision, Streamlit, image embeddings | Demo: <https://huggingface.co/spaces/Instantaneous1/search-by-image>
* **Playpick: A personalized movie recommender** powered by Collaborative Filtering that gets better with user feedback and interaction, no need for OTT premiums to recommend you movies **| Metrics** AP@100=0.4604 AP@20 of 0.3795 | Model Quantization, MongoDB, Streamlit | Demo: [https://pick-1-movie.streamlit.app](https://pick-1-movie.streamlit.app/)
* **Cricket-Prophet: A Live cricket score predictor** that improves prediction with each ball played; outperforms run-rate or match-encounter based models **| Metrics** MSE: 11.68 in ODIs, MSE: 20.44 in T20s| CI-CD, Feature Engineering, Randomforest, Streamlit, Web Scraping | Demo: [https://cricket-prophet.streamlit.app](https://cricket-prophet.streamlit.app/)
* **Web-Brief: No size limit summariser for web pages that has no limit on input token length** achievedby recursively chunkifying long documents and summarizing the chunks iteratively | NLP, Bert, Document Chunkify, Nodejs, Chrome extension, hugging face | Demo: [https://long-doc-summary.streamlit.app](https://long-doc-summary.streamlit.app/)
* **BERT-Video-Search: Abstractive summary & semantic search through Youtube video** bygrouping subtitles and perform vector similarity search with FAISS | CI-CD, S-BERT, Streamlit, vector embeddings, NLP, LLM, FAISS |Demo: <https://huggingface.co/spaces/Instantaneous1/bert-video-search-and-jump>

***Courses***

* Stanford University: Machine Learning Foundations with Andrew Ng
* Databricks LLM101x | Large Language Models: Application through Production