1. My name is Dhairvi Shah, and I am writing to express my strong interest in the Summer Internship Program at CERN as advertised on the official site. I have been following CERN for some time now and have been impressed by your work like digital twins playing a key role in high-energy physics experiments which was from detector development, to designing strategies for data analytics and comparing results with theoretical models. I am particularly drawn to CERN because of its reputation for Quantum Computing, investigation in dark universe, MARS Bio-imaging and solutions for renewable energy transmission and the exciting challenges it faces in these industries. With a background in Data Science, Data analytics, Machine and Deep Learning and Artificial Intelligence, I am confident in my ability to contribute effectively to your team. I am excited about the prospect of being able to contribute to CERN, learn from the experts and to work along highly intellectual minds of the field. Thank you for considering my application. I look forward to the possibility of discussing how my skills and experiences can contribute to the CERN.
2. My motivation for applying to the Summer Internship Program at CERN stems from my admiration for the organization’s pioneering work, especially in areas like digital twins, high-energy physics experiments, and cutting-edge projects such as Quantum Computing and dark universe exploration. The challenges posed in MARS Bio-imaging and renewable energy solutions further fuel my enthusiasm. With a background in Data Science, Data Analytics, Machine and Deep Learning, and Artificial Intelligence, I am eager to contribute my skills to CERN's innovative endeavors. The prospect of learning from experts and collaborating with intellectual minds in these fields motivates me, and I am excited about the opportunity to be part of CERN's groundbreaking research
3. My journey includes a Bachelor's in Information and Communication Technology and a Master’s in Data Science and Analytics. With 2.5 years of experience, I've mastered Python, Machine Learning, Deep Learning, AI, LINUX, HTML, JavaScript, JAVA, CSS, Latex, MySQL, PostgreSQL, Oracle, MongoDB, and Arduino. Professionally, I applied these skills at ISRO-SAC, using ML on real-time satellite data for ocean wind analysis. As a Machine Learning Engineer at Magenta BI, I analysed time series data to reveal trends and seasonality, enhancing the business intelligence module and ensuring accurate results for clients. My background and experience provide a solid foundation. I am confident that my skills and innovation passion make me a valuable candidate. For more details, refer to my CV and motivation letter.
4. I would like to draw some insights in one the experiments of CERN with interested me the most. MACHINA, developed by CERN and INFN, is a portable accelerator for analysing historical artefacts and artworks without damage. Traditional accelerators are used in cancer therapy, but MACHINA is unique for cultural heritage. Fragile objects are hard to move, making analysis challenging. Tested in 2022, it'll operate in Florence's art conservation centre, Opificio delle Pietre Dure, using ion beam analysis. MACHINA's compact design allows easy transport for in situ measurements at various sites. It's funded by CERN and the Italian Ministry of Education, with support from INFN and CERN groups.