Aryan Panchal

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EDUCATION

University of Mumbai **Mumbai, Maharashtra, India**
BE in Computer Engineering *Nov 2021 - present*
Coursework: Software Engineering, Web Development, Data Warehousing and Mining, Data Structures, Python
Grade: 8/10

TECHNICAL SKILLS

Programming Languages: Python, SQL, JavaScript
Frameworks: Next.js, React
DB and Libraries: MongoDB, MySQL, Pandas, Numpy

WORK EXPERIENCE

Project Intern
Scanbo.com, Vancouver, British Columbia, Canada *Aug 2024 - present*

* Developed and implemented deep learning models for hyperglycemia detection using ECG and PPG signals, contributing to cutting-edge research in healthcare AI.
* Performed data preprocessing, analysis, and augmentation of biomedical signals to enhance model accuracy and robustness in detecting hyperglycemia trends.
* Collaborated with a multidisciplinary team to integrate deep learning techniques and domain expertise, driving the project's innovation and practical applications.
* Contributed to the design and evaluation of models using Python, TensorFlow, and other relevant tools, resulting in improved performance metrics and valuable insights for future healthcare solutions.

Startup Engineer
Chemisphere.in, Maharashtra, India *Dec 2021 - present*

* Leading the strategic design and development of the official website as well as application of Chemisphere thereby ensuring a cohesive digital presence and efficient functionality.
* Orchestrating a diverse range of responsibilities from intricate scheduling to adept management within the startup environment.
* Spearheading operational excellence and driving social media expansion for the startup, actively contributing to scalable growth.
* Single handedly pushed the social growth of the company to more than 250K associated members in the community.
* Hiring and managing interns and providing essential training and required skill set to solve various problems in both technical and non-technical domains.

PROJECTS

* **Hyperglycemia Detection using ECG and PPG Signals via Deep Learning.**
  - As the project lead, I spearheaded the development of a non-invasive hyperglycemia detection system using ECG and PPG signals, combined with deep learning models to deliver accurate, real-time predictions. I led the design and implementation of a timestamp-based approach, which accounts for the elapsed time between ECG, PPG, and glucose readings, minimizing errors and eliminating the variability associated with pre- and post-meal blood sugar fluctuations. Under my leadership, the team ensured consistent, generalized results, improving upon traditional invasive glucose monitoring techniques. This innovative system, driven by our collaborative efforts, offers a user-friendly, reliable tool for early hyperglycemia detection, with the potential to significantly enhance patient care and reduce cardiovascular risks.

* **Innovative Strategies for Multiple Disease Prognosis using Machine Learning.**
  - Directed a team in the development of the project, focusing on predictive healthcare and preventive strategies.
  - Applied advanced ML algorithms like Logistic Regression, Gaussian Naive Bayes, and Support Vector Machine (SVM) to create accurate multi-disease prediction models.
  - Utilized diverse patient data sources to build holistic profiles, enhancing early disease detection and personalized preventive care.
  - Achieved certification from top medical professionals and documented the project extensively, including digital, web-based, and printed formats.

- Released the project as open source, enabling global collaboration and continuous improvement; utilized Python, Streamlit, Jupyter Notebooks, HTML, CSS, and JavaScript.
- Deployed site GitHub landing page GitHub ML page Report Documentation page

* **Hospital Management System**.
  - Led a project implementing admin, doctor, and patient functionalities, including account creation, registration, appointment management, and invoice generation using Django, HTML, CSS, and JavaScript.
  - Designed features for doctors to manage patient details and appointments, and for patients to book appointments, view doctor details, and access invoices, ensuring streamlined healthcare processes.
  - Applied Agile methodology covering planning, requirement gathering, analysis, implementation, deployment, and maintenance, ensuring efficient project execution and high-quality outcomes.
  - Github page

PUBLICATIONS

* **A Comprehensive Survey of Machine Learning Algorithms for Multi-Disease Prognosis**
  International Journal of Innovative research in Engineering. Volume 5, Issue 3 (May-June 2024), PP:188-189
  DOI: https://www.doi.org/10.59256/ijire.20240503022
  This study explores various machine learning algorithms applied in medical science to enhance the accuracy of disease prediction. By leveraging predictive algorithms, the research demonstrates significant improvements in diagnosing conditions such as myocardial infarction, diabetes, and chronic kidney disease. The emphasis on timely identification and precise measurements underscores the potential for methodical and effective treatment strategies. This research integrates the latest medical surveys, contributing to the ongoing development in medical science and offering insights into optimizing and enhancing healthcare technologies.
* **An Introductory Study on Perceptron in Deep Learning**
  International Journal of Innovative research in Engineering. Volume 5, Issue 3 (May-June 2024), PP:186-187
  DOI: https://www.doi.org/10.59256/ijire.20240503021
  This paper covers an introductory overview of deep learning and how the building blocks of neural networks - perceptron, carries out tasks such as decision making and tackling complex operations through stacking procedure.
* **Systematic Approach in Multiple Disease Prognosis using Machine Learning Techniques**
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  REG NO: L-147546/2024

ACHIEVEMENTS

* Recieved a gold class certificate as a Campus Ambassador at Techfest, Indian Institute of Technology, Mumbai with an All India Rank of 44 Link
* Recieved a certificate of participation for participating in HackHaven 1.0, a national level hackathon organised by CSI - SLRTCE held on 18th, 19th and 20th March 2024 at Shree LR Tiwari College of Engineering Link
* Recieved a certificate of completion for completing the 2023 Web Development Bootcamp under Dr. Angela YU [UDEMY] Link
* Recieved a certificate of completion on completing A Crash Course on Python offered by Google [COURSERA] Link

EXTRACURRICULAR ACTIVITIES

* **Founding President** of Entrepreneurship cell of Rajiv Gandhi Institute of Technology - Sept 2022 - June 2024
  - Founded and served as the inaugural President of the Entrepreneurship Cell (E-Cell) at Rajiv Gandhi Institute of Technology (RGIT), leading a dynamic team of over 100 motivated students.
  - Spearheaded initiatives to establish an unparalleled startup ecosystem, fostering innovation and entrepreneurship within the institution.
  - Provided strategic guidance and support to aspiring studentpreneurs, creating a fertile environment for their growth and success.
  - Cultivated a profound entrepreneurial spirit among students, driving the institution's reputation as a hub for innovative ventures.
* Secured the highest marks in Violin Grade 1 as awarded by London College of Music Examination 2023
* Volunteered in SOCH RGIT - A Social Wing of RGIT and participated in a marathon organised for breast cancer awareness.
* An active member of SHRI ADARSH PANCHAL SEVA SAMAJ NGO where I have contributed for more than 7 years.