



Club Report

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A. Members of the Club

Faculty in-Charge - Prachi Tawde

President – Ved Mistry

Vice Presidents –

- Chirag Jagad
- Jay Thadeshwar

Senior Mentors -

- Aryan Ringshia
- Neil Desai
- Muskan Goyal
- Soham Desai

Junior Mentors -

- Aakash Goradia
- Jash Shah
- Gautam Malpani
- Karna Mehta
- Pradhyuman Pandey
- Prathamesh Nayak
- Shlok Mangle
- Vraj Desai
- Jainil Shah
- Krishang Shah
- Sairaaj Surve
- Vardhan Doshi



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B. Year in Review

It has been a year of change and improvement at DJ InIT.ai Club. We have focused on our team members and worked on refining their skill sets, so that we can continue to deliver our hallmark events and activities. This year we focused on :

- **AI Lecture Series** : This series is aimed at lecturing and mentoring students who are in the second year of their degree about AI and its fundamentals. Students who attend the lectures are given assignments that help them strengthen the foundation of the topics taught in the lectures.
- **Event**: DJ InIT.AI's first ever event, Data2Knowledge Datathon.
- **Website**: Redesigned the website of DJ InIT.ai adding new functionalities.
- **Blogs**: Blogs are written and published by our junior mentors. These blogs are focused on AI topics.
- **Research Projects**: Junior mentors are guided and mentored by the Senior mentors to work on projects that enable them to do quality research work.

The following sections give a detailed review of each of the activities/events mentioned above.

C. Achievements

- 1.) Vraj Desai (Junior Mentor), Shlok Mangle (Junior Mentor), Pradhyuman Pandey (Junior Mentor), and Rujuta Joshi won the First Prize in Fleet Risk business Insight ML Challenge of Techfest 2022, IIT Bombay. The event was held from 16th December to 18th December 2022. It was a FL-based machine learning model to calculate the risk score of the given telematics. On the application side, A dashboard built to showing the risk of the different telematics companies. Risk score of the driver, vehicle, and route of the trips. Also, using the dashboard we are able to compare the risk scores of different fleet companies.
- 2.) Pradhyuman Pandey (Junior Mentor), along with Dev Makadia and Ashray Gattani won the Techanalytics competition organized by 84th edition of Technex 2023, held at IIT BHU. It was a Business Intelligence project idea of extracting meaningful insights from the fragmented dataset of a Social Media Company. Identifying KPIs and performing SWOT analysis based on Market Research and User Behaviour. Developing an interactive Dashboard. Deriving useful Insights on the data. Demand Forecasting: Developing ML models and performing comparative analysis. Identifying and classifying various demand patterns and forecasting using appropriate approach. Developed an integrated Dashboard for Inventory Management. Suggesting Strategic and Operational plans based on the forecasted demand.



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- 3.) Pradhyuman Pandey (Junior Mentor) and Shlok Mangle (Junior Mentor) along with others won the city level Smart India Hackathon 2022 , AaVISHKAR 2023 organized by Government of India. The project was to Create games/open source solutions to develop games which help in teaching/learning concepts
- 4.) Jainil Shah (Junior Mentor), Krishang Shah (Junior Mentor), Aakash Goradia (Junior Mentor) won the 1st prize in AI/ML Domain at Bit n Build GDSC organized by Fr.Conceicoa Rodrigues College of Engineering. The project was a website that identifies weak students, based on their past marks, by predicting their end semester marks and if they are in the risk zone special lectures will be scheduled for them.

D. Lecture Series

1. Lecture 1: Introduction to Python

Name of the Speakers: Karna Mehta & Sairaaj Surve

Venue: MS Teams

Date: 13th October, 2022

Time: 2:00 pm – 3.30 pm

Class: Second Year BTech IT

Attendance: 47

Topic: Introduction to Python

Description:

The quick informative lecture on Python Basics for the Second-Year students was conducted by the Junior Mentors of the club. The lecture covered a brief recap of python syntax and data structures , if else else-if conditions, arithmetic operations , basic for and while loops, range function , enumerate function and functions with return statement in Python. The SEs were provided with a link for a tutorial of basic python syntax. . The different unique data types and data structures were introduced to the SEs and the methods that are often used with these data types. Following that students were shown some fun tips and tricks unique to python, why python as a programming language is so easy and fun to learn and code. A google collab notebook was also shared with the juniors which had cheat sheets for the topics covered in the lecture. This notebook also touched those topics which are not that often used but will be helpful for students who want to deep dive into the Python world . During the course of the lecture we took some polls and questions on Mentimeter an interactive presentation tool so as to gauge student comprehension ,test knowledge retention and make it a fun way to break up learning. This at the same time enabled every voice in the classroom to be heard. Answers to all the questions asked during the same were provided with a proper reason so that students



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who couldn't make it to the solution know why they are wrong. Finally, SE's were given some questions and a brainstorming session was done for the solutions of the same. The code was explained and the students were given enough time to implement it as well. The response received was quite good and we had a footfall of 47 students attending the lecture. The overall session was an interactive one with the students asking the doubts and getting them solved by the Mentors. The students were satisfied with the lecture according to the results we got in the feedback form. The lecture ended on a good note building up the curiosity to attend the upcoming lectures.

2. Lecture 2: Numpy, Pandas and Matplotlib

Name of the Speakers: Pradhyuman Pandey & Prathamesh Nayak

Venue: Classroom 64, IT Department

Date: 5th November 2022

Time: 2:00 pm – 3.30 pm

Class: SY BTech Information Technology

Attendance : 42

Topic: Numpy, Pandas and Matplotlib

Description:

The quick informative lecture on Python Basics for the Second-Year students was conducted by the Junior Mentors of the club. The lecture covered a brief recap of data structures available (i.e. Sets, Tuples, Lists and Dictionaries), their descriptions, their available functions and also basics about the NumPy, Pandas and Matplotlib in Python. The SEs were provided with a link for a tutorial of Data structures in python. The different unique data structures were introduced to the SEs and the methods that are often used with these data types. Following that, students were shown how they can use the different data structure available in python efficiently and learn importance and functioning of each. A google collab notebook was also shared with the juniors which had cheat sheets for the topics covered in the lecture. This notebook also touched those topics which are not that often used but will be helpful for students who want to deep dive into the Python world. Answers to all the questions asked during the same were provided with a proper reason so that students who couldn't make it to the solution know why they are wrong. Finally, SE's were given some questions and a brainstorming session was done for the solutions of the same. The code was explained, and the students were given enough time to implement it as well. The response received was quite good and we had a footfall of 42 students attending the lecture. The overall session was an interactive one with the students asking the doubts and getting them solved by the Mentors. The students were satisfied with the lecture according to the results we got in the feedback form. The lecture ended on a good note building up the curiosity to attend the upcoming lectures.



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3. Lecture 3: Introduction to Data Analysis - I

Name of the Speakers: Aakash Goradia & Jainil Shah

Venue: Classroom 64, IT Department

Date: 12th November, 2022

Time: 02:00 pm – 03:30 pm

Class: Second Year BTech IT

Attendance: 38

Topic: Introduction to Data Analysis - I

A quick informative lecture on Excel Basics for the Second-Year students was conducted by the Junior Mentors of the club. The lecture covered a brief recap of Excel formula syntax, ranges, fill, absolute reference and relative reference, sort, filter, tables, conditional format, pivot tables and AND, OR, AVERAGE, SUM, COUNT, MEDIAN, MODE, MAX, MIN, STDEV.P and STDEV.S functions. The SEs were also provided with a link of W3 Schools for a tutorial of Excel at the end.

The lecture started with the brief overview of Data Analysis and why Excel is used in Data Analysis. Following that students were shown some basic syntaxes of formulas and details on sheets and cells in Excel. A Car Inventory Dataset was also shared with the juniors which had all the required attributes that were going to be used in the lecture. Operations on the attributes were performed in front of students and they were asked to do the same. During the course of the lecture we took many off-topic questions also to make the lecture more interactive. This at the same time enabled every voice in the classroom to be heard. Answers to all the questions asked during the same were provided with a proper reason so that students who couldn't make it to the solution know why they are wrong. Additionally, they were also told some shortcuts which they could use.

SE's were asked to figure out the purpose of the function for themselves and were also made to do some brainstorming about the usage of different functions. The use of each topic was explained and the students were given enough time to implement it as well. The response received was quite good and we had a footfall of 8 students attending the lecture. The overall session was an interactive one with the students asking the doubts and getting them solved by the Mentors. The lecture ended on a good note building up the curiosity to attend the upcoming lectures.



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4. Lecture 4: Introduction to Data Analysis - II

Name of the Speaker: Vardhan Doshi & Shlok Mangle

Venue: Classroom 64, IT Department

Date: 19th November, 2022

Time: 2:00 pm– 3:30 pm

Class: Second Year BTech IT

Topic: Introduction to Data Analysis - II

Description:

The quick informative lecture on Python NumPy for the Second-Year students was conducted by the Junior Mentors of the club. The lecture covered a brief recap of python data structures (list, tuple, dictionary, set). Following that students were shown given an introduction to NumPy and its importance in Data Science and Machine Learning. A google collab notebook was also shared with the juniors which explained the syntax of NumPy. The students were also explained the various ways to initialize and access/index a NumPy array. Integer indexing and Boolean indexing was also explained. In addition to the above topics, NumPy broadcasting was also taught which helped them to understand the concept of NumPy better. In order to gauge student comprehension, test knowledge retention and make it a fun way to break up learning, doubts were frequently asked. This at the same time enabled every voice in the classroom to be heard. Answers to all the questions asked during the same were provided with a proper reason so that students who couldn't make it to the solution know why they are wrong. The code was explained and the students were given enough time to implement it as well. The overall session was an interactive one with the students asking the doubts and getting them solved by the Mentors. The lecture ended on a good note building up the curiosity to attend the upcoming lectures.



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5. Lecture 5: Masterclass on Transfer Learning

Name of the Speaker: Ved Mistry, Aryan Ringshia, Neil Desai, Chirag Jagad, Jay Thadeshwar

Venue: Seminar Hall, 3rd Floor

Date: 4th May, 2023

Time: 9:00 am– 11:30 am

Class: Third Year BTech IT

Topic: Masterclass on Transfer Learning

Description:

After years of experience in the Artificial Intelligence and Machine Learning domain, and following the success of their python lecture series, the members of InIT.AI, the AI club of our college, organized a lecture on transfer learning on 4th May 2023. The event took place in the Seminar Hall and was attended by approximately 100 students. The lecture was an essential part of the IACV course syllabus and aimed to provide students with valuable knowledge in the field of transfer learning.

Content Covered:

The lecture covered various aspects of transfer learning, a powerful technique in machine learning. The senior mentors from DJ InIT.AI discussed the following topics:

Introduction to Transfer Learning: The lecture began with an introduction to transfer learning, explaining its significance and applications in the field of machine learning.





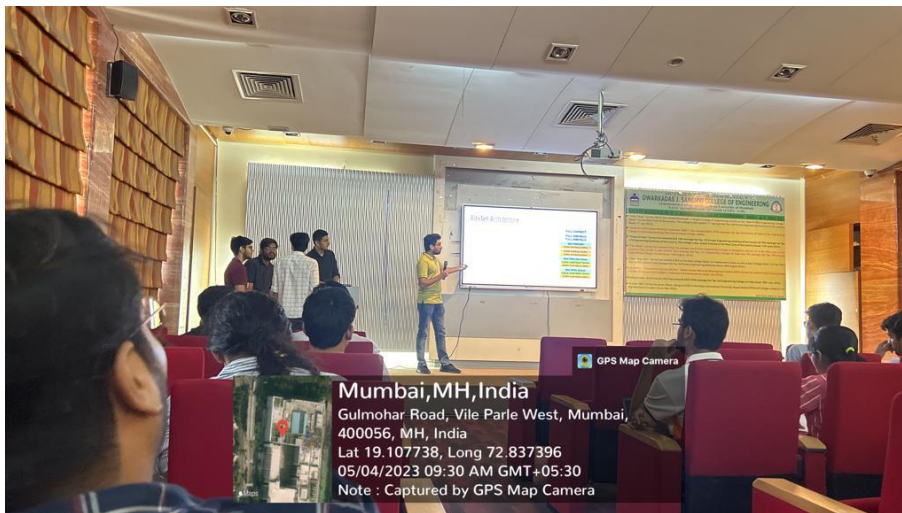
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AlexNet: The mentors provided an overview of the AlexNet architecture, a widely used convolutional neural network (CNN) model in computer vision tasks.



ResNet: The lecture then focused on ResNet, another popular CNN architecture known for its ability to handle deep neural networks effectively.

VGG Architecture: The mentors discussed the VGG architecture, which is known for its simplicity and effectiveness in image recognition tasks.

Inception Architecture: The lecture covered the Inception architecture, highlighting its unique feature of using multiple parallel convolutional layers.

Keypoint Regression: The mentors also touched upon the topic of keypoint regression, demonstrating how it can be applied in various computer vision applications.





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Implementation on Jupyter Notebooks:

To provide practical exposure, the mentors conducted hands-on sessions on implementing transfer learning techniques using Jupyter notebooks. Students were guided through the implementation process, allowing them to gain practical experience and reinforce the concepts discussed during the lecture.

Conclusion:

The lecture on transfer learning organized by DJ InIT.AI was a resounding success, offering valuable knowledge to students ranging from beginners to experts. The event provided a platform for students to understand the fundamental concepts of transfer learning and its application in different architectures. DJ InIT.AI aims to continue organizing such events in the future to further ignite students' interest in the field of artificial intelligence.

Overall, the lecture was a great learning experience for all the attendees, equipping them with the necessary skills and knowledge to excel in the field of machine learning and AI. DJ InIT.AI hopes to conduct more such events and garner students' interest in the artificial intelligence domain.

6. Lecture 6: Resume Building

Name of the Speaker: Vraj Desai & Jash Shah

Venue: Classroom 64, IT Department

Date: 19th November, 2022

Time: 2:00 pm– 3:30 pm

Class: Second Year BTech IT

Topic: Resume Building

Description:

The lecture on Resume Building is a dynamic and informative session designed to empower individuals with the knowledge and skills necessary to construct a compelling and effective resume. Whether you're a recent graduate entering the workforce or a seasoned professional aiming to advance your career, this lecture offers valuable insights and strategies to help you distinguish yourself from the competition.

Participants will explore the fundamental purpose of a resume, understanding its significance in the job application process as a powerful marketing tool. The lecture will delve into structuring a resume, including appropriate sections, headings, and order of information, as well as tailoring it to specific job positions or industries.



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Key topics covered include crafting attention-grabbing summaries, showcasing skills and achievements using action verbs and quantifiable results, effectively presenting work experience and educational background, incorporating additional sections to enhance the resume, and optimizing online presence.

The lecture emphasizes the importance of customization, teaching attendees how to tailor their resumes for specific opportunities by incorporating relevant keywords and phrases from job descriptions. It also touches on design and formatting considerations, common mistakes to avoid, and the significance of creating tailored cover letters.

Throughout the lecture, participants will engage in interactive discussions, have their questions answered, and receive practical tips and guidance from industry experts. By the end of the session, attendees will leave with a solid understanding of resume building strategies, enabling them to confidently create professional resumes that open doors to exciting career prospects.

7. Lecture 7: What is Git-GitHub

Name of the Speaker: Krishang Shah & Gautam Malpani

Venue: Classroom 64, IT Department

Date: 19th November, 2022

Time: 2:00 pm– 3:30 pm

Class: Second Year BTech IT

Topic: What is Git-GitHub

Description:

The lecture on Git and GitHub is a comprehensive and hands-on session that aims to empower participants with a solid understanding of these essential tools for version control and collaboration in software development. Whether you are a beginner or have some experience with Git and GitHub, this lecture will provide you with the knowledge and skills needed to effectively utilize these tools in your projects.

The lecture covers the fundamental concepts of version control and introduces participants to Git, a distributed version control system. Participants will learn about repositories, commits, branches, merging, and conflict resolution, along with the basic commands and workflows used in Git.

Furthermore, the lecture dives into the powerful features of GitHub, a web-based platform for hosting Git repositories. Participants will explore collaboration techniques such as branch management, code review, and team coordination using GitHub's pull requests, issue tracking, and project management capabilities.



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The session also covers advanced topics such as branching strategies, conflict resolution, version control best practices, and integration with continuous integration and deployment (CI/CD) pipelines. Participants will gain insights into optimizing their workflows, maintaining code hygiene, and leveraging GitHub's project management tools for efficient development processes.

Throughout the lecture, participants will engage in hands-on exercises, allowing them to apply the concepts and commands in real-world scenarios. Additionally, the session encourages active participation through Q&A sessions, ensuring that participants receive practical guidance and clarifications from experienced instructors.

By the end of the lecture, participants will have a strong grasp of Git and GitHub, enabling them to confidently utilize these tools to manage version control, collaborate effectively with team members, and streamline their software development projects.

8. Lecture 8: Integrating ML models with web

Name of the Speaker: Vraj Desai & Pradhyuman Pandey

Venue: Classroom 64, IT Department

Date: 19th November, 2022

Time: 2:00 pm– 3:30 pm

Class: Second Year BTech IT

Topic: Integrating ML models with web

Description:

The lecture on integrating Machine Learning (ML) models with web applications is a practical and insightful session that equips participants with the knowledge and skills needed to seamlessly incorporate ML capabilities into their web projects. Whether you are a web developer, data scientist, or aspiring AI enthusiast, this lecture will empower you to leverage ML and create intelligent web experiences.

Key topics covered include the value of ML integration in web applications, web API development for serving ML models, model training and deployment best practices, exposing ML models as APIs, front-end integration using JavaScript frameworks, data preparation and transformation, model monitoring, performance optimization, and ethical considerations.

Participants will learn how to design and build robust web APIs using popular frameworks, train ML models using TensorFlow or PyTorch, and deploy models using cloud services or containerization techniques. They will gain insights into exposing ML models as APIs, understanding RESTful APIs, and integrating ML-powered features into the front-end using JavaScript frameworks.



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Data preparation and transformation techniques will be explored to ensure compatibility between web application data and ML model requirements. Monitoring model performance, optimizing for efficiency, and addressing ethical considerations such as data privacy and bias mitigation will also be discussed.

Through practical demonstrations, hands-on exercises, and discussions with industry experts, participants will gain a comprehensive understanding of integrating ML models with web applications. By the end of the lecture, attendees will be equipped to create intelligent web experiences that harness the power of ML, opening up possibilities for personalization, recommendation systems, image recognition, natural language processing, and more.

E. Blogs

1. Designing a Program to Teach Digital Literacy Skills to Elderly Individuals using Azure Servies

This blog describes importance, tips for designing a Program to Teach Digital Literacy Skills to Seniors, and its implementation.

Written by Fahad Siddiqui

2. Develop a cloud-based electronic health record (EHR) system using FHIR Azure API

This blog describes Electronic Health Record, FHIR, its use and implementation along with its advantages and development and orientations.

Written by Tanvi Bhide

3. Environmental Sustainability with AI and Azure

This blog explains the environmental sustainability faced and its solutions and architecture with detailed technical implementation of the solution.

Written by Ayushi Uttamani

4. Heatwaves and AQI with AzureML

The blog describes how Heatwaves and Air Quality Index(AQI) affects flowers and the solution and Technical details and implementation of the solution along with its business benefits.

Written by Vraj Desai

5. InnerGuide: Your Go To Place

The blog describes an application that would help people to connect with professional trainers regarding their anxiety or mental health problems along with some interesting interactive exercises.

Written by Krupa Bhayani



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F. Research Projects

1. Violent Action Recognition:

Problem Statement : Manual video surveillance takes time and is prone to human error. Thanks to machine learning and deep learning, video analytics automates these processes. Video classification is an important aspect of video analytics. It is critical to detect violent behaviour in recordings for surveillance, crime prevention, and public safety. Video classification algorithms are capable of detecting violent acts in video data. The classification of violent acts enhances public safety and crime prevention. This paper introduces readers to the many approaches to video classification and describes the underlying network structure of the 3DCNN, ConvLSTM, and LRCN models, which are commonly used for video classification. Additionally, the models' implementation results were compared in order to conduct a comparative performance analysis of the models for the task of violent action classification. When it comes to classification, F1 Score, AUC score, and accuracy are useful metrics for evaluating models, and they were compared. We discuss some of the difficulties in violent action classification, as well as some potential future opportunities and new perspectives on how to address them and improve the system.

Team Members:

- Jash Shah
- Pradyuman Pandey

2. Fleet Analysis Using FedML

Problem Statement : The objective of this project is to develop an ML model using federated learning technology that effectively calculates the risk score for drivers, vehicles, routes, and fleet telematics companies in comparison with other customers. To achieve this, the first step is to identify the relevant risk parameters and metrics for each entity. For drivers, these may include variables such as driving behaviour, accident history, and traffic violations. For vehicles, factors such as age, mileage, and maintenance records may be considered. For routes, variables such as traffic volume, weather conditions, and road quality may be relevant. Finally, for fleet telematics companies, metrics such as utilisation rates, maintenance costs, and fuel efficiency can be used to calculate risk scores.

Once the relevant risk parameters have been identified for each entity, appropriate algorithms are used to calculate the individual risk scores. For example, machine learning algorithms such as deep neural networks may be used to predict the likelihood of accidents or other negative events based on historical data. To maintain data privacy, the risk score of individual parameters will be collected locally and sent to a central server using federated learning algorithms. Federated learning allows the model to be trained on the aggregated data from all entities without transferring any sensitive data to the server. Instead, only the updated model parameters are shared, ensuring data privacy and security.



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The proposed approach will enable the development of an effective ML model that can accurately calculate the risk score for drivers, vehicles, routes, and fleet telematics companies while preserving data privacy and security. This will provide valuable insights to companies in the transportation industry, enabling them to make informed decisions and take proactive measures to mitigate risk.

Team Members :

- Vraj Desai
- Shlok Mangle

3. Contextual Advertising in Live Streaming Videos:

Problem Statement : Advertising has become ubiquitous in the internet community and more so in the ever-growing and popular online video delivery websites (e.g. YouTube, Vimeo). Video advertising is becoming increasingly popular on these websites as it has the most user engagement levels. Platforms like YouTube, however, seldom have contextually relevant ads, which makes the ads extremely annoying to watch. Live streaming has become a new form of entertainment, which attracts hundreds of millions of users worldwide. The huge amount of multimedia data in live streaming platforms creates tremendous opportunities for online advertising. However, existing state-of-the-art video advertising strategies (e.g., pre-roll and contextual mid-roll advertising) that rely on analyzing the whole video, are not applicable to live streaming videos. We propose a framework that will display contextually relevant ads at appropriate times during live-streams in a non-intrusive way, using deep neural networks and natural language processing.

Team Members :

- Gautam Malpani
- Prathamesh Nayak

4. Content Based Research Paper Recommendation:

Problem Statement : Efficient extraction of insights from data is crucial in times of global challenges. Research papers are vital for academic and professional growth, innovation, policy-making, and decision-making. However, finding papers for a literature review is challenging due to the vast literature, limited access, language barriers, and time constraints. To overcome these difficulties, we propose a content-based recommendation method. It prioritizes the categorization of papers, utilizes titles, and leverages abstracts to streamline the search process. By employing this approach, researchers can overcome obstacles and conduct comprehensive and well-informed literature reviews. The method enhances efficiency, improves access to relevant research, and contributes to advancing human knowledge while addressing societal challenges. By leveraging content-based filtering and recommendation techniques, researchers can make a global impact and ensure the reliability of their research by accessing evidence-



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based information. This approach enables researchers to stay up-to-date with the latest research and strengthens their visibility, reputation, and potential for innovation.

Team Members :

- Jainil Shah
- Vardhan Doshi

5. Quality Inspection In Pharma And Metal Industries Using Computer Vision:

Problem Statement : This project aims to address the quality inspection issues in pharmaceutical pills and metal surfaces using computer vision techniques. Quality inspection is a critical process in the pharmaceutical industry as it ensures the safety and efficacy of drugs. Similarly, in the manufacturing industry, quality inspection of metal surfaces is essential to ensure product quality and reliability. However, manual inspection is prone to errors and can be time-consuming, leading to decreased efficiency and increased costs. To overcome these challenges, we have developed a computer vision system that utilizes YOLOv8 and image processing techniques for defect detection in pharmaceutical pills. The system can quickly and accurately detect defects such as cracked, crushed pills and empty sockets thereby improving the quality inspection process. For metal surface inspection, we have utilized image processing techniques to detect defects such as scratches and patches. The system can quickly analyze the images and identify defects, enabling manufacturers to take corrective action and prevent defective products from reaching the market. Overall, our system offers a more efficient and accurate solution for quality inspection in the pharmaceutical and manufacturing industries. It eliminates the errors and inefficiencies associated with manual inspection, resulting in cost savings and improved product quality.

Team Member :

- Krishang Shah
- Karna Mehta

6. Music Generation using AI:

Problem Statement : There are a few key distinctions between creating music and creating images and movies. First, as music is a time-based art, a temporal model is required. Last but not least, polyphonic music frequently groups notes into chords, arpeggios, or melodies, making it unnatural to introduce a chronological ordering of notes. In this paper, we present a paradigm for creating symbolic multi-track music using Transformers and generative adversarial networks (GANs). We have trained the model with constructs of piano-rolls of five



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tracks, including bass, drums, guitar, piano, and strings. This dataset is known as the Lakh Pianoroll Dataset and was used to train the models on a dataset of more than 100,000 bars of rock music. We demonstrate that our models are capable of creating original and coherent music from scratch.

Team Member :

- Aakash Goradia
- Sairaaj Surve

G. Event – Data2Knowledge

Date: 16/02/23

Event Name: Data To Knowledge (D2K)

DJ InIT.AI forayed into the world of hackathons with their inaugural datathon, titled 'Data To Knowledge'. After years of experience in the Artificial Intelligence and Machine Learning domain, and following the success of their python lecture series, the members of InIT.AI decided it was time to conduct a datathon that would be different from the run-of-the-mill events conducted by other college committees, and would target students with an inclination towards the fields of data science and machine learning. The inspiration for this event was the popular Netflix series 'Money Heist', and the creatives team worked hard to live up to this theme with impressive decorations adorning the IT and CS departments, where this datathon was held.





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The excitement for this datathon was unprecedented, as upwards of a 100 teams of interested students accross all departments registered. 56 teams were shortlisted by the InIT.AI mentors on the basis of the team members' resumes. The teams consisted of 1 or 2 members each.

Data To Knowledge, abbreviated as D2K, was inaugurated by Head of Department of Information Technology Dr Vinaya Sawant, Faculty Incharge of InIT.AI Prof. Prachi Tawde, IT Faculty members and the senior mentors of InIT.AI at 8:30 AM on February 16, 2023. The ceremonial lamp was lit, and the ribbon was cut, following which the teams were led to their respective labs, which were named after money mints following the theme of Money Heist.

There was an air of excitement as the teams eagerly waited for the problem statements to be released. The problem statements had already been allotted to the teams by the senior InIT.AI mentors according to the team members' expertise. These problem statements were provided by data science companies, namely Data Science Wizards, Textify and Ognntech. They were as follows:

PS1:

1. You are a wealthy capitalist in the year 2011. You have 100 crore INR in your fund and you want to multiply your money in the next 10 years.
2. Use the data from Indian Census (and other websites) to build reasonable wealth generation hypothesis.
3. You can invest the money in any of the following:
 1. Buying land in fast growing cities (using census data to find cities with the highest growth in population)
 2. Bank deposits (using data from bank interest rates to find growth multiple)
 3. Buying fast growing industries or companies (using data from indian stock market to see company growth and using census data to prove your idea)
 4. Etc (whatever you can think of)
4. Once you invest your money is any asset, you CANNOT invest in another until the end of 10 years.

PS2:

Let's assume a situation, you have a customer that is looking for quotes from a data scientist. They want to have a new quote every week for the next few months. They've tasked you with the job to present them with inspirational quotes and their respective authors.

SUB-TASK 1:

Scrap the website and extract quotes and the author of each quote.

<https://www.kdnuggets.com/2017/05/42-essential-quotes-data-science-thought-leaders.html>

<https://www.analytixlabs.co.in/blog/40-best-artificial-intelligence-quotes/>



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<https://www.scuba.io/blog/48-analytics-quotes-experts>
<https://datasemantics.co/36-inspirational-quotes-on-big-data-machine-learning-and-artificial-intelligence/>

Try to create a dataset of at least 150-200 quotes.

You can use any other website to scrap quotes data but make sure it is in the domain of AI/ML, data science, NLP and deep learning.

SUB-TASK 2:

Generate the dataset by scrapping the dataset from the above links with the fields such as:

- Quote ID
- Quotes
- Author
- Category

You can add more fields of your choice. Train a recommender system model with the above dataset based on user preference.

SUB-TASK 3:

Rank the top-5 quotes. Also, train the model based on the user's mouse clicks and preferences at the end of each day.

PS3:

How effectively can you summarize the contents of research papers/articles submitted within the healthcare domain?

Description:

This project entails the task of text summarization of research papers in the healthcare domain.

The system thus developed should encompass state-of-the-art technologies to summarize the content of the research papers. The desired output from these papers will be consumed in 2 ways, a blog of around 400 words and a ppt presentation of at least 5 slides, one for each section.

Data:

The candidates are allowed to browse through the web to collect data in the form of research papers/articles, keeping the following constraints in mind:

- The data used must be in the healthcare domain.
- The summary should be between 300 and 400 words.



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- The ppt should contain at least 5 slides, 1 for each section of the research paper, (Abstract, Methodology, Evaluation, Conclusion).
- The training data must contain at least 50 research papers in the healthcare domain.

Deliverables::

Given a healthcare research paper, the system should be able to generate:

1. A blog containing the summarized text, between 300 and 400 word in length.
2. A PPT presentation of the same paper with bullet points indicating the summary, with each slide dedicated to each section of the research paper (1 slide for Abstract, 1 slide for Methodology, 1 slide for Evaluation, 1 slide for Conclusion, and 1 slide for Discussion).

The problem statements were released at 9:00 AM sharp. Teams were sent their respective problem statements via email by the InIT.AI team, and the teams got an hour to ponder over their PS and figure out their plans of action. Coding began at 10:00 AM, and a time period of 6 hours was given to the teams to come up with a working solution.



The teams worked vigorously to procure a solution. Highly experienced mentors were present, who guided participants during the mentoring session and whenever doubts arose. The labs were filled with energy and healthy competition all around, as the teams strived to incorporate the inputs given by the mentors into their solutions. The coding round continued till 4:00 PM, after which the teams were asked to stop coding and submit their solutions to be considered for the final round.

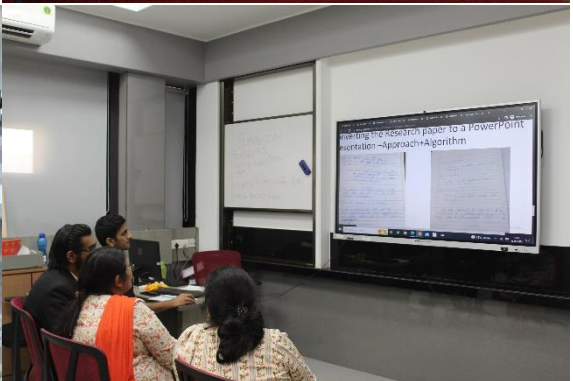
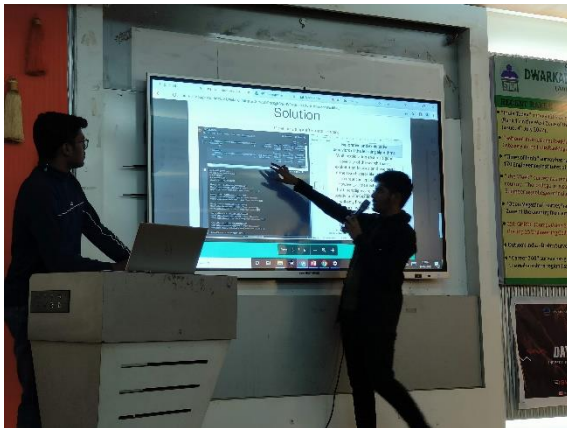
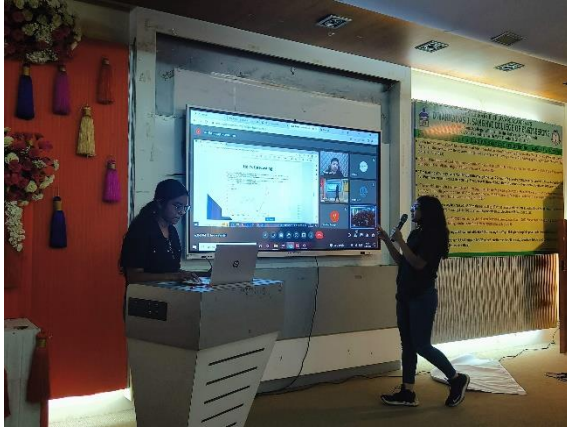
The first judging round commenced at 4:30 PM, and the judges shortlisted 9 teams (3 from each problem statement) after reviewing their solutions. These 9 teams were then asked to present their solutions in front of all the judges in the Seminar Hall. Based on their presentations, the top 3 teams were declared as the winners.



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The winners were:

PS 1 - Vividha Jagtap and Kaunchi Jain

PS 2 - Smit Shah and Mithil Bavishi

PS 3 - Hetvi Solanki and Avish Jain

The event successfully concluded at 7:30 pm with the closing ceremony. Felicitation was done by the Principal Dr. Hari Vasudevan along The Head of the IT department Dr. Vinaya Sawant and our faculty incharge Prof. Prachi Tawde. All in all it was a great learning



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experience for every candidate, whether a beginner or expert. DJ InIT.AI hopes to conduct more such events and garner students' interest in the artificial intelligence domain.





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H. Website

The new redesigned club website is hosted on the Netlify platform.

Upon loading the website, we see a visually appealing layout designed to capture visitors' attention. The website may have a navigation menu or sidebar that allows users to explore different sections or pages.

The homepage provides an introduction or overview of the club and the members behind the website. It includes a brief description, background information, and some images or multimedia elements related to the project.

There are various sections or pages dedicated to different topics or aspects. These include sections such as "About," "Projects," "Blog," "Contact," and others, which allow visitors to learn more about the project's goals, past work, or ongoing updates.

The "Projects" section showcases previous works or ongoing initiatives.

Additionally, there is a blog section where all the articles, thoughts, or updates related to the clubs work and area of expertise. This section allows visitors to engage with the content, leave comments, or share articles on social media.

Furthermore, there is a "Contact" page or section with contact information, such as an email address and a contact form, allowing visitors to get in touch with the website owner or project team.