

SHORT – TERM INTERNSHIP

(Virtual)



**GODAVARI INSTITUTE OF**

**ENGINEERING & TECHNOLOGY**

**(AUTONOMOUS)**

**2024 - 2025**



.

**PROGRAM BOOK FOR**

**SHORT-TERM INTERNSHIP**

# (Onsite / Virtual)

SANIVADA KANAKA VARAHALU

GODAVARI INSTITUTE OF ENGINEERING AND TECHNOLOGY(A)

22551A04G5

8 WEEKS 13-5-2024 20-07-2024

: SKILLDZIRE

GODAVARI INSTITUTE OF TECHNOLOGY

AND ENGINEERING(A)

2024-2025

# GODAVARI INSTITUTE OF ENGINEERING AND TECHNOLOGY(A)

**PROGRAM BOOK FOR SHORT-TERM INTERNSHIP**

**Name of the Student :** SANIVADA KANAKA VARAHALU

**Name of the College :** GODAVARI INSTITUTE OF ENGINEERING & TECHNOLOGY(A)

**Registration Number :** 22551A04G5

**Period of Internship:** 8 weeks **From:**13/5/2024  **To:**20/7/2024 **Name & Address of the Intern Organization :** SKILLDZIRE

An Internship Report On

# ARTIFICAL INTELLIGENCE

Submitted in accordance with the requirement for the degree of

### BACHELOR OF TECHNOLOGY

**ELECTRONICS AND COMMUNICATION ENGINEERING**

Under the Faculty of Guideship of

**Mrs D.NAVYA NARAYANA KUMARI**

**Assistant Professor**

Department of

### ELECTRONICS AND COMMUNICATION ENGINEERING

**Submitted by:**

**S.KANAKA VARAHALU**

**Reg. No: 22551A04G5**



### DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

**GODAVARI INSTITUTE OF ENGINEERING AND TECHNOLOGY(A)**

**(NAAC ‘A++’ Grade, Approved by ACITE, Affiliated to JNTUK, Kakinada) NH-16, Chaitanya Knowledge City, Rajahmundry-533296.**

**2024**

## 

**Student’s Declaration**

I **SANIVADA KANAKA VARAHALU**, a student of Short-Term Internship Program, Reg. No**. 22551A04G5** of the Department of **Electronics & communication Engineering**  , Godavari Institute ofEngineering & Technology College do hereby declare that I have completed the mandatory internship from 13-May-2024 to 20-July-2024 in **SKILLDZIRE** SOCIETY under the facultyGuideship of **Mrs D.NAVYA NARAYANA KUMARI**, Assistant professor, Department of Electronics & communication engineering, Godavari Institute of Engineering & Technology (A)

(Signature and Date)

**Official Certification**

This is to certify thatSANIVADA KANAKA VARAHALU Reg. No. **22551A04G5**  has completed her Internship in **SKILLDZIRE** society on **ARTIFICIAL INTELLIGENCE** under my supervision as a part of partial fulfillment of the requirement for the Degree of Bachelor of Technology in the Department of Electronics and communication Engineering, Godavari Institute of Engineering and Technology (A).

This is accepted for evaluation

(Signatory with Date and Seal)

*Endorsements*

*Faculty Guide*

*Head of the Department*

*Principal*

### DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**BONAFIDE CERTIFICATE**

Certified that this Internship work entitled “**ARTIFICIAL INTELLIGENCE**” is bonfide work done and carried by **SANIVADA KANAKA VARAHALU**(22551A04G5) who carried out the internship work under my guidance during the academic year 2024-2025 towards partial fulfilment of the requirements of the degree BACHELOR OF TECHNOLOGY in Electronics and Communication Engineering Department as per the regulations of Godavari Institute of Engineering and Technology (A) , Rajahmundry, A.P. affiliated to the JNTUK Kakinada.

**Mrs D.NAVYA NARAYANA KUMARI Dr.P.VENKATARAO**

**Assistant Professor, ECE Professor**

**Internal Guide HOD ,ECE**

Date:

**Internal Examiner External Examiner**

GODAVARI INSTITUTE OF EGINEERING AND TECHNOLOGY

**An Autonomous Institution**

CHAITANYA KNOWLEDGE CITY, NH-16, RAJAMAHENDRAVARAM 533296 AP

### CERTFICATE OF AUTHENTICATION

I solemnly declare that this Internship report “**ARTIFICIAL INTELLIGENCE”** is Bonafide work done purely done SANIVADA KANAKA VARAHALU**(**22551A04G5**),** carried under the supervision of **Mrs D.NAVYA NARAYANA KUMARI** Assistant professortowards partial fulfilment of the requirements of the degree of bachelor of technology in electronics and communication engineering as administered under the regulations of Godavari Institute of Engineering & Technology, Rajahmundry, AP, India and award of the Degree from Jawaharlal Nehru Technological University ,Kakinada during the year 2024-2025.I also declare that no part of this document has been taken up verbatim from any source without permission from the author(s)/publisher(s).It is further certified that this work has not been submitted, either in part of in full, to any other department of the JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, KAKINADA, or any other University, Institution or elsewhere, in India or abroad or for publication in any others.

Signature of the Student:

SANIVADA KANAKA VARAHALU

22551A04G5

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We are grateful to our guide **Mrs D.NAVYA NARAYANA KUMARI** Assistant Professor for having given us the opportunity to carry out this Internship program. We take this opportunity to express our profound and whole heartfelt thanks to our guide, with her patience support and sincere guidance helped us in successful completion of the Internship program.

I also do not like to miss the opportunity to acknowledge the contribution of all faculty members of the department for their kind assistance and cooperation during the development of my internship program.

My special thanks to the Management of my college for providing necessary arrangements to carry out this internship program.

**SANIVADA KANAKA VARAHALU**

**22551A04G5**

##### ABSTRACT

**ARTIFICIAL INTELLIGENCE(AI)**

Artificial Intelligence (AI) is a transformative technology that simulates human intelligence processes through the use of algorithms, computer systems, and neural networks. It encompasses a broad spectrum of applications, ranging from machine learning, natural language processing, and robotics to computer vision and expert systems. AI has the potential to revolutionize various sectors, including healthcare, finance, transportation, and education, by automating complex tasks and enabling data-driven decision-making.

**1.Machine Learning (ML):** A subset of AI focused on the development of algorithms that allow computers to learn from and make predictions based on data. Techniques include supervised learning, unsupervised learning, and reinforcement learning.

**2.Natural Language Processing (NLP):** Enables machines to understand, interpret, and respond to human language. Applications include chatbots, language translation, and sentiment analysis.

**3.Robotics:** The design and creation of robots that can perform tasks autonomously or semi- autonomously. AI-powered robots are used in manufacturing, healthcare, and service industries.

**4.Computer Vision:** The ability of machines to interpret and process visual information from the world. It is used in applications such as facial recognition, object detection, and autonomous vehicles.

Applications:

**Healthcare:** AI is used for diagnosing diseases, personalizing treatment plans, and predicting

patient outcomes. For example, AI algorithms can analyze medical images to detect anomalies.

**1.Finance:** AI systems are employed for fraud detection, algorithmic trading, and personalized banking services. They help in analyzing large datasets to uncover trends and make informed financial decisions.

**2.Transportation:** Autonomous vehicles use AI for navigation, obstacle detection, and route planning. AI also optimizes logistics and supply chain management.

**3.Education:** AI-driven personalized learning platforms adapt to the needs of individual students, providing customized content and improving learning outcomes.

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### CHAPTER 1: EXECUTIVE SUMMARY

Introduction :

I completed my internship at SKILL DZIRE from 13-05-2024 to 20-07-2024 . During this period of internship , I had gained a valuable experience and knowledge about Arificial Intelligence.

Internship Organization :

The Artificial Intelligence Medical and Engineering Researchers Society (SKILLDZIRE) stands as a premier professional organization at the forefront of the advancement of Artificial Intelligence (AI) within the realms of medical and engineering research. This esteemed society is committed to driving innovation and excellence in AI by fostering a collaborative environment among researchers, practitioners, and students from diverse backgrounds and disciplines. The SKILL DZIRE Society's mission is to serve as a catalyst for the development and application of cutting-edge AI technologies that can address complex challenges in healthcare and engineering. By creating a vibrant and inclusive platform, the society facilitates the exchange of knowledge, ideas, and best practices among its members. This collaborative approach ensures that AI research is not only innovative but also practically applicable, leading to realworld solutions that can significantly improve medical outcomes and engineering processes.

In pursuit of its mission, the SKILL DZIRE Society organizes a wide array of activities and initiatives designed to promote AI research and development. These include annual conferences, symposiums, and workshops that bring together leading AI experts to discuss the latest advancements and trends. Such events provide invaluable opportunities for networking, collaboration, and professional growth.

Summary of Activities :

The SKILLDZIRE Society is actively engaged in promoting interdisciplinary research and collaboration at the intersection of AI, medicine, and engineering. Key activities include organizing conferences, symposia, and workshops to facilitate knowledge exchange and showcase cutting-edge research.

The society supports professional development through training programs, webinars, and certification courses, ensuring members stay updated with the latest advancements. SKILL DZIRE provides funding opportunities and mentorship for innovative research projects, while also developing ethical guidelines and best practices for AI applications in healthcare and engineering. By fostering a community of researchers, practitioners, and students, SKILL DZIRE creates a vibrant network for collaboration and idea-sharing. Additionally, the society engages in educational outreach to inspire the next generation of AI professionals and addresses critical issues such as data privacy, algorithmic bias, and the responsible use of AI technologies.

Conclusion :

After completing this Internship , we had a great experience about Artificial Intelligence that how to use the AI in a better and efficient way. We had gained the information that how to d evelop the real-time projects also. Finally , we haad developed some models also.

### CHAPTER 2: OVERVIEW OF THE ORGANIZATION

Introduction of the SKILLDZIRE SOCIETY :

The Artificial Intelligence Medical and Engineering Researchers Society (SKILL DZIRE Society) stands as a premier professional organization at the forefront of the advancement of Artificial Intelligence (AI) within the realms of medical and engineering research. This esteemed society is committed to driving innovation and excellence in AI by fostering a collaborative environment among researchers, practitioners, and students from diverse backgrounds and disciplines.

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Mission:

The mission of the SKILL DZIRE Society is to promote the development and application of AI technologies to solve complex medical and engineering problems, improve healthcare outcomes, and enhance engineering solutions. The society aims to bridge the gap between theoretical research and practical implementation, encouraging interdisciplinary collaboration and real-world impact.

Objectives:

* To advance research in AI and its applications in medical and engineering fields.
* To provide a platform for researchers, practitioners, and students to share knowledge and collaborate on AI projects.
* To organize conferences, workshops, and seminars for the dissemination of AI research and knowledge.
* To support the professional development of AI researchers and practitioners through training programs, certifications, and networking opportunities.
* To foster ethical AI practices and address societal challenges related to AI deployment.

Key Activities:

* Conferences & Workshops: Organizing annual conferences, symposiums, and workshops that bring together leading AI experts, researchers, and practitioners to discuss the latest advancements and trends in AI.
* Research Publications: Publishing high-quality research papers, journals, and articles on AI technologies and their applications in medical and engineering fields.
* Competitions & Contests: Hosting AI model development & chatbot contests to encourage

innovation & practical applications of AI among student & professionals.

* Training Programs: Offering training & certification programs in AI & related technologies

to enhance the skills and knowledge of members.

* Collaboration Projects: Facilitating collaborative projects between academia, industry,

and healthcare institutions to drive AI innovation and practical solutions.

Membership:

The SKILLDZIRE Society offers various membership categories,including

individual,student, & corporate memberships.Members gain accessto exclusive resources

networking opportunities, & discounts on events and the publications. The society

encourages participation from AI enthusiasts, researchers, practitioners, & organizations

interested in the advancement of AI technologies.

Leadership:

The SKILL DZIRE Society is led by a team of experienced professionals and experts in the fields of AI, medical research, and engineering. The leadership team is responsible for strategic planning, organizing events, and guiding the society towards achieving its mission and objectives.

Impact and Achievements:

* Developed AI models for early diagnosis and treatment of medical conditions.
* Contributed to significant advancements in engineering solutions

through AI technologies.

* Fostered a global community of AI researchers and practitioners.
* Organized successful conferences and workshops with high participation &

impactful outcomes.

* Published influential research papers and articles in reputed journals.

Future Goals:

* Expand the scope of research and applications in AI to cover emerging

fields and technologies.

* Increase collaboration with international AI societies and organizations.
* Enhance training and certification programs to meet the evolving

needs of AI professionals.

* Promote ethical AI practices and address challenges related to AI

governance and societal impact.

### CHAPTER 3: INTERNSHIP PART

1. Working Conditions

* **Environment:** The working environment was professional and collaborative, featuring a mix of individual and team-based tasks. The office space was well-lit, equipped with comfortable seating, and provided a conducive atmosphere for both focused work and team discussions.
* **Facilities:** The workspace included advanced computing facilities, such as high-performance GPUs, cloud computing resources, & access to up-to-date AI software and tools. Additionally, there were spaces for team meetings, brainstorming sessions, and technical workshops.
* **Support:** Interns had access to experienced mentors and team members who to

provided Guidance , feedback , & support for ongoing projects. Regular check-ins

& one-on-one meetings ensured that interns received constructive feedback and

had opportunities to discuss their progress.

1. Weekly Work Schedule

**Typical Schedule:**

* **Monday to Friday:** 9:00 AM to 5:00 PM, with an hour-long lunch break.

**Weekly Meetings:**

* **Team Meetings:** Held every Monday morning to discuss project updates, set goals for the week, and review the progress of ongoing tasks.
* **Technical Workshops:** Scheduled bi-weekly for knowledge sharing on techniques, tools, or industry trends.
* **Mentorship Sessions:** Weekly one-on-one sessions with mentor personalized guidance and feedback on tasks and learning objectives.
* **Tasks:** Interns were assigned aspecific projects and tasks with weekly deadlines, requiring them to manage their time effectively & balance individual responsibilities

with collaborative work.

1. Equipment Used

**Hardware:**

* + **Computing Hardware:** High-performance workstations equipped with NVIDIA GPUs for training and running machine learning models.
  + **Cloud Platforms:** Access to cloud computing services such as AWS, Google Cloud Platform, or Microsoft Azure for scalable AI model development and deployment.

1. **Software and Tools:**
   * **Development Frameworks:** TensorFlow, PyTorch, and Keras for building and training machine learning models.
   * **Data Management:** Jupyter Notebooks for interactive development and visualization; SQL for managing and querying databases.
   * **Version Control:** Git and GitHub for code management, collaboration, and version control.
   * **Data Analysis:** Pandas and NumPy for data manipulation and analysis; Matplotlib and Seaborn for data visualization.
2. Tasks Performed

**Model Development:**

* + **Building Models:** Assisted in developing and implementing machine learning models for various AI projects, including data collection, preprocessing, model selection, training, and evaluation.
  + **Algorithm Testing:** Conducted experiments with different algorithms and techniques, such as supervised learning (classification, regression), unsupervised learning (clustering, dimensionality reduction), and reinforcement learning.

**Data Handling:**

* + **Data Preprocessing:** Performed tasks related to data cleaning, feature extraction, and transformation to prepare datasets for model training and evaluation.
  + **Data Analysis:** Analyzed experimental results, generated reports, and visualized data to understand model performance and derive insights.

**Collaborative Projects:**

* + **Team Contributions:** Worked on collaborative projects with other interns and team members, contributing ideas, participating in code reviews, and helping to resolve technical issues.
  + **Documentation:** Documented development processes, maintained project logs, and wrote reports summarizing project findings and outcomes.

**Research and Development:**

* + **Literature Review:** Conducted literature reviews to stay updated with the latest advancements in AI and incorporated new techniques and ideas into ongoing projects.
  + **Innovation:** Engaged in innovative thinking to propose new methods, solutions, and improvements for existing AI models and processes.

1. Skills Acquired

**Technical Skills:**

* + **Machine Learning and Deep Learning:** Gained hands-on experience with machine learning frameworks and algorithms, including model building, hyperparameter tuning, and evaluation techniques.
  + **Data Handling:** Developed skills in data preprocessing, feature engineering, and data analysis for effective AI model training and performance assessment.

**Professional Skills:**

* + **Project Management:** Enhanced abilities in managing project tasks, meeting deadlines, and coordinating with team members to achieve project goals.
  + **Collaboration and Communication:** Improved collaboration skills through teamwork, regular meetings, and effective communication with mentors & peers.

**Research Skills:**

* + **Literature Review:** Acquired skills in researching current AI trends, reviewing academic papers, and integrating new knowledge into practical projects.

**Problem-Solving Skills:**

* + **Critical Thinking:** Strengthened problem-solving abilities by tackling complex AI challenges, experimenting with different approaches, and analyzing results to drive project success

### ACTIVITY LOG FOR THE FIRST WEEK

|  |  |  |  |
| --- | --- | --- | --- |
| **Day & Date** | **Brief description of the**  **daily activity** | **Learning Outcome** | **Person InCharge Signature** |
| Day – 1 | Introduction to Generative AI and  the models, tools and limitations . | Generative AI |  |
| Day - 2 | Brief details about generative AI. How to use the AI tools efficiently. Generation of text, image , videos, music using this tools. | I had learnt the Usage of Different AI tools |  |
| Day – 3 | Introduction to Python Basics, python setup, small programs and various concepts. | I had learned the Python Basics |  |
| Day – 4 | Introduction to development of telegram Chatbot. Digilockers information. | I learnt Telegram Chatbot development intro. |  |
| Day – 5 | Full Process in step by step way that how to develop a telegram chatbot using chatgpt. | I learnt  Chatbot development |  |
| Day –6 | Creating different types of bots like weather bot , data bot using gemini AI. | Creating different bots |  |

###### WEEKLY REPORT

**WEEK –1 (From Dt………..….. to Dt………..)**

**Objective of the Activity Done:**

**Detailed Report:**

On the first day,we received an introduction about Generative AIand the information about the AI ( Artificial Intelligence ) . Some tools that are used for the Generative AI .

The second day , we enter into the detailed information about generative AI . In this day , we had learnt some different tools. We had learnt how to use the AI effeciently for our daily activities , and how the AI replaces the future world. We had disscussed so many tools that had generate the image , text , videos , music which doesn’t exist before i.e a new one.

The next day we had disscussed the basics of python , setup of python , small programs , Intoduction to the python , various concepts like datatypes , loopings , classes and objects , strings …. And different concepts.

The last three days we had discussed about the development of the telegram chatbots. That first we had discussed about the introduction about the chatbots and that how they are working like the chatgpt , google gemini , claude AI . And then we had entered into the development of the telegram bots . There is a step by step by procedure that to create a new bot in the telegram.In this process you will receive a token id , copy that tokenid and paste in the bot code that will be run in the google colab. While running that cells , our bot starts responding to our questions. In this way we had created a lot of different types of bots like weather bot , capitals bot , text to image bot..

### ACTIVITY LOG FOR THE SECOND WEEK

|  |  |  |  |
| --- | --- | --- | --- |
| **Day & Date** | **Brief description of the daily activity** | **Learning Outcome** | **Person InCharge Signature** |
| Day – 1 | Introduction to the Huggingface.co website and the different types of the models inside that website. | Intro about Huggingface.co |  |
| Day - 2 | Introduction to VQA(Visual  Questioning and answering) model  using salesforce model in the  Huggingface models. Different  examples also seen. | I learnt about Visual Question Answeing Model |  |
| Day – 3 | Deep details about the VQA model , and had given a task that to develop a model that takes image from the  webcam and answer to the questions dynamically. | I learned that the Creation of a VQA  Model on my own. |  |
| Day – 4 | Introduction to the Object detection using YOLO (You Only Look Once) in the website named Roboflow . | I learnt about the concept of YOLO : Object  Detection |  |
| Day – 5 | Getting into the Brief details about the object detection and had seen the so many examples . and intro to the datasets & the roboflow universe. | Examples on Object detection. |  |
| Day –6 | Task : that to create a video on the object detection using the given  dataset. | Create a video for Obj. detection. |  |

###### WEEKLY REPORT

**WEEK –2 (From Dt………..….. to Dt** **)**

**Objective of the Activity Done:**

**Detailed Report:**

On the first day of the internship, the focus was on exploring the Hugging Face platform, a leading hub for modern Natural Language Processing (NLP) technologies. The day began with an overview of Hugging Face’s website, which offers a range of tools and resources for AI practitioners. The platform features a repository of pre-trained models, datasets, and documentation for various NLP tasks, such as text classification, translation, and question-answering.

The second and third days were dedicated to understanding the Visual Question Answering (VQA) model, an advanced AI technology that combines computer vision and natural language processing. Interns started by learning about the VQA model, which is designed to answer questions based on images. The VQA process involves extracting visual features from an image using Convolutional Neural Networks (CNNs) and combining these features with text-based queries processed through Transformers. The fourth through sixth days focused on the topic of Object Detection using YOLO (You Only Look Once) in the Roboflow platform. YOLO is a popular object detection algorithm known for its speed and accuracy in detecting objects in images. The intern activities began with an introduction to the YOLO architecture, which uses a single neural network to predict bounding boxes and class probabilities for objects in real time. Interns then explored the Roboflow platform, which provides tools for building and managing object detection projects. They learned to upload images, annotate objects, and create datasets suitable for training YOLO models. Roboflow’s features were demonstrated, including the dataset versioning, augmentation options, and the model training pipeline. Interns engaged in practical tasks such as creating a new project, annotating sample images, and preparing datasets for YOLO training.

### ACTIVITY LOG FOR THE THIRD WEEK

|  |  |  |  |
| --- | --- | --- | --- |
| **Day & Date** | **Brief description of the daily activity** | **Learning Outcome** | **Person InCharge Signature** |
| Day – 1 | Efficient usage of chatGPT and Introduction to the talking robot project . | Learned about building interactive robots and  efficiently using ChatGPT for text generation and  understanding. |  |
| Day - 2 | Talking Robot project usage and development of that code. And the  required libraries installed . | I learnt that how to  develop a talking robot projects and installation of  the libraries |  |
| Day – 3 | About CNN(Convolutional Neural Networks ) . usage of the CNN’s , and the applications . | Studied the architecture and applications of  Convolutional Neural Networks for image  recognition and classification. |  |
| Day – 4 | NLP (Natural Language  Processing)Introduction,&it’s applications like chatGPT , Gemini.  And also about LLM’s | Explored natural language processing techniques and the capabilities of Large  Language Models for text- based tasks. |  |
| Day – 5 | Introduction to the table and  document Question Answering and the code of that and examples also | Explored natural language processing techniques and the capabilities of Large  Language Models for text- based tasks. |  |
| Day –6 | Image Classification : Intro to the Google teachable machine . | I had learnt about the usage of Google Teachable Machine to  create, train, and evaluate an image classification model. |  |

###### WEEKLY REPORT

###### 

**WEEK –3 (From Dt………..….. to Dt……. ……)**

**Objective of the Activity Done:**

**Detailed Report:**

On the first two days, I was introduced to the Talking Robot Project, which aimed to create an interactive robot capable of understanding and responding to human queries. We discussed the architecture of conversational agents, focusing on natural language processing techniques for enabling human-like interactions. I learned about the integration of various AI components to build a functional prototype. Additionally, we explored the efficient usage ofChatGPT, OpenAI’s advanced language model. I gained hands-on experience with ChatGPT by experimenting with its capabilities in generating text, understanding context, and improving responses through prompt engineering.

On the third day, the focus shifted to Convolutional Neural Networks (CNNs), a fundamental technique in computer vision. We covered the architecture of CNNs, including convolutional layers, pooling layers, and fully connected layers. I learned how CNNs are employed for image recognition and classification tasks. We analyzed practical examples of CNN applications, such as object detection in images and facial recognition systems, and reviewed popular CNN frameworks like TensorFlow and Keras.

The fourth day was dedicated to an Introduction to Natural Language Processing(NLP) and Large Language Models (LLMs**)**. I explored various NLP techniques used to process and analyze human language, including tokenization, sentiment analysis, and entity recognition. The session also covered LLMs like GPT-4, focusing on their ability to perform tasks such as text generation, translation, and summarization. I learned about the underlying technologies that enable LLMs to understand and generate human-like text.

On the fifth day, the topic was Table and Document Question Answering. We discussed methods for extracting information from structured tables and unstructured documents to answer specific queries. I learned about techniques for parsing tabular data, leveraging question-answering systems to retrieve relevant information.

The integrating these methods into practical applications for tasks such as data extraction and automated report generation.

The sixth day was dedicated to Image Classification Using Google TeachableMachine. I was introduced to this user-friendly tool that allows users to create machine learning models for image classification without extensive programming knowledge. I practiced creating a model, training it with custom images, and evaluating its performance. This hands-on experience demonstrated how simple tools can be used to develop and deploy machine learning models for practical image classification tasks.

### ACTIVITY LOG FOR THE FOURTH WEEK

|  |  |  |  |
| --- | --- | --- | --- |
| **Day & Date** | **Brief description of the daily activity** | **Learning Outcome** | **Person InCharge Signature** |
| Day – 1 | Introduction to the data visualizations using the PowerBI | In this introduction , I had learnt what are meant by data visualizations. |  |
| Day – 2 | Creation of excited , amazing and awesome dashboards using the  powerBI on different types of data. | In this , I had learned that how to create an amazing dashboards using powerBI. |  |
| Day – 3 | Introduction to HumanPose  estimation and detection. Techniques and applications about this. | I learnt about how to train the human pose estimation models , techiniquees in  that and applications also. |  |
| Day – 4 | Introduction to the Mediapipe Studio  : Hand gestures. Features of the Meediapipe studio and applications. | I had learned about this tool named mediapipe  studio used for building , real-time processing of audio and video data. |  |
| Day – 5 | Intro to the Google Dialogflow , how to get start , usecases , advantages and the applications. | I learnt about the google dialogflow that integrate  user interfaces into mobila apps , web applications ,  devices and bots. |  |
| Day –6 | Other topics like creating deepfakes, development of lightweight models for mobile using tensorflow lite. | In this , I had learnt that how the deepfakes are  creating and how to avoid them from us. |  |

**WEEKLY REPORT**

**WEEK –4 (From Dt………..….. to Dt** **)**

**Objective of the Activity Done:**

**Detailed Report:**

The first two days of the internship focused on getting acquainted with Power BI, a powerful data visualization tool. We started with an overview of Power BI’s interface, including its key components and functionalities. Through hands-on exercises, we learned how to import data from various sources, clean and transform the data using Power Query, and create stunning dashboards. By leveraging different visualizations like bar charts, line graphs, and maps, we gained skills in presenting data insights effectively. The sessions emphasized the importance of storytelling with data and how to use interactive features to make dashboards more engaging.

On the third day, we delved into human pose detection and estimation, a critical aspect of computer vision. The session covered the fundamentals of pose detection algorithms and their applications in fields like healthcare, sports analytics, and augmented reality. Using open-source tools such as OpenPose, we learned how to implement pose detection models to identify and track key body points in real-time. Practical exercises involved analyzing video footage and extracting pose information, which provided a solid understanding of how these technologies can be applied in real-world scenarios.

The fourth day introduced us to Mediapipe Studio, an open-source framework developed by Google for building multimodal machine learning pipelines. We specifically focused on hand gesture recognition. Through interactive tutorials, we explored how Mediapipe’s pre-trained models could be used to detect and classify hand gestures from live video feeds. By the end of the day, we were able to create applications that could recognize and respond to various hand gestures, showcasing the potential for developing intuitive human-computer interaction systems.

Day five was dedicated to learning about Google Dialogflow, a powerful tool for building conversational AI applications. The session began with an overview of Dialogflow’s architecture and features. We then moved on to creating our own chatbots, starting with designing intents, entities, and contexts.

By integrating Dialogflow with messaging platforms and web applications, we saw firsthand how to create responsive and intelligent virtual assistants. This day provided valuable insights into natural language processing and the practicalities of deploying conversational agents.

The final day covered a range of advanced AI topics, including the creation of deepfakes and the development of lightweight models for mobile devices using TensorFlow Lite. We explored the ethical implications and technical challenges of creating deepfakes, learning how generative adversarial networks (GANs) are used to synthesize realistic media. Additionally, the session on TensorFlow Lite demonstrated how to optimize and deploy machine learning models on mobile and embedded devices. Through practical exercises, we learned to convert and compress models, ensuring efficient performance on resource-constrained platforms.

### ACTIVITY LOG FOR THE FIFTH WEEK

|  |  |  |  |
| --- | --- | --- | --- |
| **Day & Date** | **Brief description of the daily activity** | **Learning Outcome** | **Person InCharge Signature** |
| Day – 1 | Introduction to the Cyber Security Basics and the important keywords and the different types in this. And about darkweb ,how to protect  ourselves from cyber threats. | Understanding cyber security fundamentals, threats, dark web, and personal protection  techniques |  |
| Day – 2 | Intro to the OWASP (Open Web Application Security Project ) and  the important keywords like exploit , velnerabilities and patching. | Knowledge of OWASP Top Ten, key security terms, and importance of vulnerability patching |  |
| Day – 3 | Introduction to the some hacking practice websites like extremely buggy ewb applications , BWAPP.hackhub.net , dvwa.. and different types of hacking attacks. | Practical experience with hacking simulation  websites and  understanding various types of cyber attacks |  |
| Day – 4 | Introduction to the Cyber Crimes , and different types of crimes  involved in it like pishing ,Awareness about Cyber Crimes , and sharing  some live experiences. | Awareness of different types of cyber crimes and real-life examples,  importance of reporting and prevention |  |
| Day – 5 | Introduction to the Vulnerability Scanning and how to do that , and in how many ways. And different types of testing . | Techniques for vulnerability scanning, using tools, and different types of security testing |  |
| Day –6 | Introduction to the Hacking Live Websites . And hack some other  websites and create awareness about hacking and toprotect ourselves from that hacking. | Ethical considerations of hacking, protecting live websites, and strategies for maintaining security |  |

**WEEKLY REPORT**

**WEEK –5 (From Dt………..….. to Dt** **)**

**Objective of the Activity Done:**

**Detailed Report:**

The first day focused on introducing the fundamentals of cyber security. Important keywords such as "threats," "vulnerabilities," "exploits," and "mitigation" were discussed. We explored different types of cyber threats including malware, ransomware, phishing, and DDoS attacks. The session also covered the concept of the dark web, explaining its structure and how it is used for illegal activities.

On the second day, we delved into the Open Web Application Security Project (OWASP), a global initiative that aims to improve the security of software. Key terms like "exploit," "vulnerabilities," and "patching" were introduced. We learned about the OWASP Top Ten, which lists the most critical security risks to web applications, including injection flaws, broken authentication, and cross-site scripting (XSS).

The third day was dedicated to hands-on practice with hacking simulation websites. We were introduced to platforms like bWAPP, Hackhub.net, and DVWA (Damn Vulnerable Web Application). These platforms provide safe environments to practice ethical hacking techniques and understand different types of attacks, such as SQL injection, XSS, and CSRF (Cross-Site Request Forgery

Day four focused on cyber crimes and their various forms. We discussed different types of cyber crimes such as phishing, identity theft, cyberstalking, and financial fraud. The session included real-life examples of cyber crime cases to illustrate the impact of these activities on individuals and organizations. Awareness about cyber crimes was stressed, along with the importance of reporting incidents and taking preventive measures to protect personal and sensitive information.

On the fifth day, we learned about vulnerability scanning, a crucial process in identifying security weaknesses in systems and applications. Different types of vulnerability scanners, including network-based, host-based, and application-based scanners, were discussed.Different types of testing, including static and dynamic analysis, were also covered.

The final day involved learning about the risks associated with hacking live websites.The session included demonstrations of ethical hacking on test websites to show how vulnerabilities can be exploited.Strategies to protect websites from being hacked were discussed, including implementing security best practices, regular updates, and security audits.

### ACTIVITY LOG FOR THE SIXTH WEEK

|  |  |  |  |
| --- | --- | --- | --- |
| **Day & Date** | **Brief description of the daily activity** | **Learning Outcome** | **Person InCharge Signature** |
| Day – 1 | About the Cyber Security and the important keywords inside the CS.  And also about the Privacy like how to escape ourselves from the CS  threats like enabling 2-step  verification, mulitiple passwords. | Understanding basic cybersecurity concepts and privacy measures. |  |
| Day – 2 | Deep details about the CS Security and privacy like encryption ,  recovery options , disposable email, mobile APK’s ,pishing , permissions. | Learning about encryption, recovery,  disposable emails, and phishing. |  |
| Day – 3 | Introduction to the Malware Analysis and the different tools , different  keywords related to the Malware Analysis like Ransomware ,trojan, keylogger, Rootkit, Spyware. | Gaining knowledge about malware types and  analysis tools |  |
| Day – 4 | Introduction to the CIA Traid and AAA framework. And the definitions and usage , applications of that  topics. | Understanding the core principles of security and their applications. |  |
| Day – 5 | Intro to the Types of Hacking like SQL Injection , Cross Site Scripting (XSS) , and how they are working and how to avoid oueselves from that types of hacking. | Learning about SQL Injection and XSS, and how to prevent them. |  |
| Day –6 | Introduction to the Firewall. How the firewall works in the software and  the importance of firewall in the systems and companies. | Understanding the functioning and  importance of firewalls in network security. |  |

###### WEEKLY REPORT

**WEEK –6 (From Dt………..….. to Dt** **)**

**Objective of the Activity Done:**

**Detailed Report:**

On the first day, the focus was on understanding the fundamentals of cybersecurity and its critical importance in protecting sensitive information. Key concepts included the definitions of cybersecurity, threats, and attacks. Important keywords such as "phishing," "malware," "encryption," and "firewalls" were introduced to build a foundational vocabulary. In terms of privacy, practical steps to protect oneself from cybersecurity threats were discussed, including enabling two- step verification to add an extra layer of security, using multiple passwords to reduce the risk of a single point of failure, and regularly updating software to patch vulnerabilities.

The second day delved deeper into advanced cybersecurity and privacy techniques. Topics covered included encryption, which is the process of converting data into a coded format to prevent unauthorized access, and recovery options, which involve methods for restoring data in case of a security breach. The use of disposable emails was recommended to protect against spam and phishing attacks. Additionally, the importance of scrutinizing mobile APKs before installation was highlighted to avoid malware infections. Discussions on phishing emphasized the need to be cautious with suspicious emails and links, while understanding app permissions helped in maintaining privacy by controlling access to personal data.

On the third day, the focus shifted to malware analysis, an essential aspect of cybersecurity aimed at understanding and mitigating malicious software. Various types of malware were introduced, including ransomware, which encrypts victims' data and demands payment for decryption; trojans, which disguise themselves as legitimate software; keyloggers, which record keystrokes to steal sensitive information; rootkits, which allow unauthorized access to a computer; and spyware, which monitors and collects information without the user's knowledge.

The fourth day introduced the CIA Triad and the AAA framework, fundamental models in cybersecurity. The CIA Triad consists of three core principles: Confidentiality, ensuring that information is accessible only to those authorized;

Integrity, maintaining the accuracy and completeness of data; and Availability, ensuring that information and resources are accessible when needed. The AAA framework, comprising Authentication, Authorization, and Accounting, was also covered. Authentication verifies the identity of users, Authorization determines their access levels, and Accounting tracks their activities.

On the fifth day, different types of hacking techniques were explored, including SQL Injection and Cross-Site Scripting (XSS). SQL Injection involves inserting malicious SQL code into a database query to manipulate or access data unauthorizedly, while XSS attacks exploit vulnerabilities in web applications to inject malicious scripts. To avoid these attacks, it is essential to use prepared statements and parameterized queries to secure databases against SQL Injection and implement proper input validation and encoding to protect against XSS.

The final day covered the basics of firewalls and their role in cybersecurity. Firewalls act as a barrier between trusted and untrusted networks, monitoring and controlling incoming and outgoing network traffic based on predetermined security rules. They are essential for protecting systems and networks from unauthorized access and various cyber threats. The importance of firewalls in both personal and corporate environments was emphasized, highlighting their role in preventing attacks and ensuring secure communication.

**ACTIVITY LOG FOR THE SEVENTH WEEK**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date& Day** | **Brief description of the daily activity** | **Learning outcome** | **Person in charge signature** |
| Day-1 | About the Cyber Security and the important keywords inside the CS. And also about the Privacy like how to escape ourselves from the CS threats like enabling 2-step verification, mulitiple passwords. | Understanding basic cybersecurity concepts and privacy measures. |  |
| Day-2 | Deep details about the CS Security and privacy like encryption , recovery options , disposable email, mobile APK’s ,pishing , permissions. | Learning about encryption, recovery, disposable emails, and phishing. |  |
| Day-3 | Introduction to the Malware Analysis and the different tools , different keywords related to the Malware Analysis like Ransomware ,trojan, keylogger, Rootkit, Spyware. | Gaining knowledge about malware types and analysis tools |  |
| Day-4 | Introduction to the CIA Traid and AAA framework. And the definitions and usage , applications of that topics. | Understanding the core principles of security and their applications. |  |
| Day-5 | Intro to the Types of Hacking like SQL Injection , Cross Site Scripting (XSS) , and how they are working and how to avoid oueselves from that types of hacking. | Learning about SQL Injection and XSS, and how to prevent them. |  |
| Day-6 | Introduction to the Firewall. How the firewall works in the software and the importance of firewall in the systems and companies. | Understanding the functioning and importance of firewalls in network security. |  |

**WEEKLY REPORT WEEK –7**

**(From Dt………..….. to Dt………..…..)**

**Objective of the Activity Done:**

**Detailed Report:**

On the first day, the focus was on understanding the fundamentals of cybersecurity and its critical importance in protecting sensitive information. Key concepts included the definitions of cybersecurity, threats, and attacks. Important keywords such as "phishing," "malware," "encryption," and "firewalls" were introduced to build a foundational vocabulary. In terms of privacy, practical steps to protect oneself from cybersecurity threats were discussed, including enabling two step verification to add an extra layer of security, using multiple passwords to reduce the risk of a single point of failure, and regularly updating software to patch vulnerabilities.

The second day delved deeper into advanced cybersecurity and privacy techniques. Topics covered included encryption, which is the process of converting data into a coded format to prevent unauthorized access, and recovery options, which involve methods for restoring data in case of a security breach. The use of disposable emails was recommended to protect against spam and phishing attacks. Additionally, the importance of scrutinizing mobile APKs before installation was highlighted to avoid malware infections. Discussions on phishing emphasized the need to be cautious with suspicious emails and links, while understanding app permissions helped in maintaining privacy by controlling access to personal data.

On the third day, the focus shifted to malware analysis, an essential aspect of cybersecurity aimed at understanding and mitigating malicious software. Various types of malware were introduced, including ransomware, which encrypts victims' data and demands payment for decryption; trojans, which disguise themselves as legitimate software; keyloggers, which record keystrokes to steal sensitive information; rootkits, which allow unauthorized access to a computer; and spyware, which monitors and collects information without the user's knowledge.

The fourth day introduced the CIA Triad and the AAA framework, fundamental models in cybersecurity. The CIA Triad consists of three core principles: Confidentiality, ensuring that information is accessible only to those authorized; 35 Integrity, maintaining the accuracy and completeness of data; and Availability, ensuring that information and resources are accessible when needed. The AAA framework, comprising Authentication, Authorization, and Accounting, was also covered. Authentication verifies the identity of users, Authorization determines their access levels, and Accounting tracks their activities. On the fifth day, different types of hacking techniques were explored, including SQL Injection and Cross Site Scripting (XSS). SQL Injection involves inserting malicious SQL code into a database query to manipulate or access data unauthorizedly, while XSS attacks exploit vulnerabilities in web applications to inject malicious scripts. To avoid these attacks, it is essential to use prepared statements and parameterized queries to secure databases against SQL Injection and implement proper input validation and encoding to protect against XSS. The final day covered the basics of firewalls and their role in cybersecurity.

**ACTIVITY LOG FOR THE EIGHTH WEEK**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date& Day** | **Brief description of the daily activity** | **Learning outcome** | **Person in charge signature** |
| Day-1 | Introduction to the Cyber Security Basics and the important keywords and the different types in this. | how to protect ourselves from cyber threats. Understanding cyber security fundamentals, threats, dark web, and personal protection techniques |  |
| Day-2 | Intro to the OWASP (Open Web Application Security Project ) and the important keywords like exploit , velnerabilities | Knowledge of OWASP Top Ten, key security terms, and importance of vulnerability patching |  |
| Day-3 | Introduction to the some hacking practice websites like extremely buggy ewb applications , BWAPP.hackhub.net , dvwa.. and different types of hacking attacks. | Practical experience with hacking simulation websites and understanding various types of cyber attacks |  |
| Day-4 | Introduction to the Cyber Crimes , and different types of crimes involved in it like pishing ,Awareness about Cyber Crimes , and sharing some live experiences. | Awareness about Cyber Crimes , and sharing some live experiences. Awareness of different types of cyber crimes and real-life examples, importance of reporting and prevention |  |
| Day-5 | Introduction to the Vulnerability Scanning and how to do that , and in how many ways. And different types of testing . | Techniques for vulnerability scanning, using tools, and different types of security testing |  |
| Day-6 | Introduction to the Hacking Live Websites . And hack some other websites and create awareness about hacking and toprotect ourselves from that hacking. | Ethical considerations of hacking, protecting live websites, and strategies for maintaining security |  |

**WEEKLY REPORT WEEK – 8**

**(From Dt………..….. to Dt………..…..)**

**Objective of the Activity Done:**

**Detailed Report:**

The first day focused on introducing the fundamentals of cyber security. Important keywords such as "threats," "vulnerabilities," "exploits," and "mitigation" were discussed. We explored different types of cyber threats including malware, ransomware, phishing, and DDoS attacks. The session also covered the concept of the dark web, explaining its structure and how it is used for illegal activities. On the second day, we delved into the Open Web Application Security Project (OWASP), a global initiative that aims to improve the security of software. Key terms like "exploit," "vulnerabilities," and "patching" were introduced. We learned about the OWASP Top Ten, which lists the most critical security risks to web applications, including injection flaws, broken authentication, and cross-site scripting (XSS). The third day was dedicated to hands-on practice with hacking simulation websites. We were introduced to platforms like bWAPP, Hackhub.net, and DVWA (Damn Vulnerable Web Application).

These platforms provide safe environments to practice ethical hacking techniques and understand different types of attacks, such as SQL injection, XSS, and CSRF (Cross-Site Request Forgery Day four focused on cyber crimes and their various forms. We discussed different types of cyber crimes such as phishing, identity theft, cyberstalking, and financial fraud. The session included real-life examples of cyber crime cases to illustrate the impact of these activities on individuals and organizations. Awareness about cyber crimes was stressed, along with the importance of reporting incidents and taking preventive measures to protect personal and sensitive information.

On the eighth day, we learned about vulnerability scanning, a crucial process in identifying security weaknesses in systems and applications. Different types of vulnerability scanners, including network-based, host-based, and application-based scanners, were discussed.Different types of testing, including static and dynamic analysis, were also covered. 32 The final day involved learning about the risks associated with hacking live websites. The session included demonstrations of ethical hacking on test websites to show how vulnerabilities can be exploited. Strategies to protect websites from being hacked were discussed, including implementing security best practices, regular updates, and security audits.

### CHAPTER 5: OUTCOMES DESCRIPTION

People Interactions :

The work environment at SKILL DZIRE Society is characterized by open and collaborative interactions among team members. Researchers, professionals, and interns are encouraged to share ideas and insights freely. Regular meetings, brainstorming sessions, and collaborative projects facilitate strong communication and teamwork. Mentorship is a key component, with experienced researchers providing guidance and support to interns and new members.

Facilities Available and Maintenance :

SKILL DZIRE Society is equipped with state-of-the-art facilities, including advanced laboratories, conference rooms, and collaborative workspaces. The organization invests in cutting-edge technology and tools necessary for AI, medical, and engineering research. Facilities are well-maintained, ensuring a clean, safe, and efficient work environment. Regular maintenance schedules and prompt resolution of issues contribute to an optimal workspace.

Clarity of Job Roles :

Job roles at SKILL DZIRE are clearly defined, ensuring that every member understands their responsibilities and expectations. Detailed job descriptions and regular performance reviews help maintain clarity. Interns receive specific project assignments and clear guidance on their roles, fostering a sense of purpose and direction.

Protocols, Procedures, and Processes :

SKILL DZIRE Society follows well-established protocols and procedures to ensure consistency and efficiency in its operations. Research methodologies, data handling procedures, and ethical guidelines are clearly documented and adhered to. Standard operating procedures (SOPs) are in place for various tasks, ensuring that all activities are conducted systematically and effectively.

Discipline and Time Management :

Discipline and time management are highly valued at SKILL DZIRE. Members are expected to adhere to project deadlines and maintain a professional work ethic. Time management tools and techniques are provided to help individuals plan and prioritize their tasks. Regular check-ins and progress meetings ensure that projects stay on track.

Harmonious Relationships and Socialization :

SKILL DZIRE fosters a harmonious work environment where mutual respect and understanding are paramount. Team-building activities, social events, and informal gatherings are organized regularly to promote camaraderie and socialization among members. This helps build strong relationships and a supportive community.

Mutual Support and Teamwork :

Teamwork and mutual support are at the core of SKILL DZIRE’s work culture. Collaboration is encouraged, and team members are always willing to help each other knowledge sharing sessions, collaborative projects, and cross-disciplinary teams enhance the spirit of teamwork. Interns particularly benefit from the supportive environment, receiving ample assistance and encouragement.

Motivation :

Motivation is driven by a shared passion for innovation and excellence in research.SKILL DZIRE recognizes and rewards outstanding contributions through awards, acknowledgments, and career advancement opportunities. The organization provides a stimulating environment where individuals are motivated by challenging projects and the potential impact of their workSpace and Ventilation :

SKILL DZIRE’s workspaces are designed to be spacious and well-ventilated, ensuring a comfortable working environment. Natural light and ergonomic furniture contribute to a pleasant and healthy workspace. Attention to detail in office design promotes a conducive atmosphere for productivity and creativity.

Overall, the work environment at SKILL DZIRE Society is supportive, collaborative, and dynamic, fostering professional growth and innovation. The emphasis on clear roles, effective procedures, mutual support, and a well-maintained workspace ensures that members can perform at their best and contribute to the organization’s goals.

###### REAL TIME SKILLS ACQUIRED

1. Computer Vision:
   * Techniques and applications for enabling machines to interpret and process visual information.
   * Understanding of image processing techniques.
   * Development and implementation of vision-based solutions.
2. Convolutional Neural Networks (CNN):
   * Proficiency in building and training CNN models.
   * Knowledge of CNN architecture and applications in image recognition and classification tasks.
3. Image Classification:
   * Experience using Google Teachable Machine for image classification.
   * Understanding the workflow from image collection to model training and evaluation.
   * Skills in categorizing and labeling images based on specific rules.
4. Image Object Detection:
   * Ability to develop object detection models.
   * Knowledge of algorithms such as YOLO, SSD, and Faster R-CNN.
   * Practical applications of object detection in various domains.
5. YOLO (You Only Look Once) - Object Detection:
   * Proficiency in using YOLO for real-time object detection.
   * Experience with domain-specific datasets in medical, agriculture, drones, and traffic.
   * Integration of YOLO models in real-world applications.
6. Medical Image Analysis and Labelling:
   * Skills in using Roboflow for image labeling.
   * Understanding the importance of accurate labeling in medical image analysis.
   * Proficiency in developing AI models for medical applications.
7. Human Pose Estimation:
   * Experience using Google Teachable Machine for human pose estimation.
   * Understanding techniques for detecting and tracking human figures and their poses in

images or videos.

1. Mediapipe Studio:
   * Knowledge of building multimodal applied machine learning pipelines.
   * Experience using Mediapipe Studio for hand gesture recognition and other applications.
2. OpenCV Basics:
   * Understanding fundamental concepts and functionalities of OpenCV.
   * Practical skills in using OpenCV for various computer vision tasks.
3. Chatbot Development:
   * Skills in creating interactive agents that can converse with humans using natural language.
   * Experience with designing and integrating conversational user interfaces.
4. Google Dialogflow:
   * Proficiency in using Google Dialogflow for natural language understanding.
   * Skills in developing and deploying conversational agents.
5. Generative AI:
   * Techniques for generating new content such as music, text, and images.
   * Experience with models for music generation, text generation, and image generation.
6. AI Models:
   * Knowledge of various AI models used for different applications.
   * Skills in summarization, fill-mask models, and transformers.
7. Visual Question & Answering:
   * Development of models that answer questions about images.
   * Integration of visual and textual data for question answering.
8. Document Question & Answering:
   * Skills in developing models that answer questions based on document content.
9. Table Question & Answering:
   * Proficiency in creating models that answer questions using tabular data.
10. Large Language Models (LLMs):

- knowledge of advanced language models like Claude, GPT, Gemini, LLaMA3,

and Open LLMs.

* + Experience in text generation and language understanding.

1. Other Topics:
   * Implementation of Google's Vision API for image analysis.
   * Understanding and using small language models (SLMs) like BERT and GPT.
   * Skills in deploying and managing AI models using Ultralytics Hub.
   * Development of lightweight models for mobile and embedded devices using TensorFlow lite.
   * Proficiency in sentiment analysis and creating deepfakes.

### MANAGERIAL SKILLS ACQUIRED

Planning and Strategic Thinking

* + - **Project Planning:** Developed skills in outlining project goals, defining milestones, and creating detailed project plans. Experience in using project management tools like Trello, Asana, and Microsoft Project to track progress and manage tasks.
    - **Strategic Roadmaps:** Ability to develop strategic roadmaps for AI projects, including identifying objectives, setting timelines, and allocating resources effectively.

Leadership and Team Management

* + - **Team Leadership:** Led teams in research and development projects, providing direction, motivation, and support. Experience in assigning tasks, setting expectations, and resolving conflicts to ensure team cohesion and project success.
    - **Mentorship:** Acted as a mentor for junior team members and interns, offering guidance, feedback, and career advice to help them develop their skills and achieve their goals.

Teamwork and Collaboration

* + - **Collaborative Efforts:** Worked collaboratively with cross-functional teams, including AI researchers, engineers, and domain experts. Facilitated effective communication and coordinated efforts to achieve common objectives.
    - **Conflict Resolution:** Mediated disputes and facilitated discussions to resolve conflicts, ensuring that team dynamics remained positive and focused on project goals.

Behaviour and Professionalism

* + - **Professional Conduct:** Maintained high standards of professionalism in all interactions, demonstrating reliability, respect, and integrity. Adhered to ethical guidelines and best practices in AI research and development.
    - **Adaptability:** Showed flexibility in adapting to changing project requirements, team dynamics, and emerging technologies. Embraced new challenges and adjusted strategies as needed.

Workmanship and Quality Assurance

* + - **Quality Control:** Ensured the high quality of deliverables through rigorous testing, code reviews, and adherence to best practices in AI model development and deployment.
    - **Attention to Detail:** Demonstrated meticulous attention to detail in project execution, from data preprocessing to model evaluation, ensuring accuracy and reliability in all aspects of the work.

Productive Use of Time

* + - **Time Management:** Effectively managed time by prioritizing tasks, setting deadlines, and avoiding procrastination. Used time management techniques like the Pomodoro Technique and task batching to maintain productivity.
    - **Efficient Scheduling:** Created and maintained project schedules, balanced multiple responsibilities, and ensured timely completion of tasks and milestones.

Weekly Improvement in Competencies

* + - **Continuous Learning:** Committed to weekly learning and skill improvement through reading research papers, attending webinars, and exploring new

technologies. Documented progress and reflected on lessons learned to

enhance competencies.

Goal Setting and Achievement

* + - **SMART Goals:** Set SMART (Specific, Measurable, Achievable, Relevant, Time- bound) goals for projects and personal development. Monitored progress towards goals and made adjustments to stay on track.
    - **Performance Tracking:** Used performance metrics to track progress towards goals, assess achievements, and identify areas for improvement.

Decision Making

* + - **Data-Driven Decisions:** Made informed decisions based on data analysis, model performance metrics, and stakeholder input. Employed decision-making frameworks and tools to evaluate options and select the best course of action.
    - **Risk Management:** Identified potential risks in projects and developed mitigation strategies to address challenges and uncertainties.

Performance Analysis and Improvement

* + - **Performance Evaluation:** Conducted performance evaluations for team members and projects, providing constructive feedback and setting objectives for improvement.

### IMPROVEMENT OF COMMMUNICATION SKILLS

Oral Communication

**Active Listening:** Practice active listening by summarizing what others say, asking

clarifying questions to ensure understanding.

**Clear Articulation:** Improve clarity by structuring your thoughts , using simple language,

& avoiding jargon when explaining complex AI concepts.

Written Communication

Structured Writing: Enhance written skills by organizing content into clear sections,

& using bullet points for key ideas, and proofreading for clarity and correctness.

**Concise Summarization:** Practice summarizing technical details succinctly ,focusing

on essential information for different audiences, such as stakeholders or team members.

Conversational Abilities

Engage Actively: Develop conversational skills by asking open-ended questions &

showing genuine interest in others' opinions and experiences.

**Balanced Dialogue:** Ensure a balanced conversation by equally contributing listening , allowing for meaningful exchanges of ideas and feedback.

Confidence Levels While Communicating

**Preparation:** Boost confidence by thoroughly preparing for discussions, presentations,

and meetings with well-researched material and practice.

**Positive Self-Talk:** Increase self-assurance through positive self-talk and visualiza

**-**tion tec hniques before engaging in public speaking or group discussions.

Anxiety Management

**Relaxation Techniques:** Use relaxation techniques like deep breathing or mindfulness

to manage anxiety before and during communication.

**Practice Regularly:** Reduce anxiety by practicing communication in various settings, such as through mock presentations or joining speaking clubs.

Understanding Others

**Empathy Practice:** Develop empathy by actively listening to others' perspectives & asking

clarifying questions to better understand their viewpoints.

**Simplified Explanations:** Ensure understanding by breaking down complex AI concepts into simpler, relatable terms and checking for comprehension.

Extempore Speech

**Impromptu Practice:** Improve extempore skills by practicing imprompt speeches on random topics, focusing on clear structure and articulation.

Ability to Articulate the Key Points

**Summarization Techniques:** Practice summarizing key points by focusing on the main objectives and outcomes of your message or presentation.

Closing the Conversation

**Effective Closure:** Practice ending conversations with clear, polite statements that summarize the discussion and outline next steps or actions.

Maintaining Niceties and Protocols

**Polite Interactions:** Maintain professionalism by using polite language, respecting other

opinions, and following established communication protocols.

**Formal Greetings:** Use appropriate greetings and formalities in professional settings, ensure you acknowledge others respectfully and adhere to conventions.

Greeting, Thanking, and Appreciating Others

**Professional Etiquette:** Develop habits of greeting with a smile, thanking for contributions, and appreciating efforts to foster a positive work environment.

**Acknowledgement Practice:** Make a practice of acknowledging help achievements

in both informal and formal interactions to build rapport.

### ENHANCEMENT SKILLS

Group Discussions

**Active Listening:** Improve group discussions by listening actively, acknowledging others’ points, and asking insightful questions to drive the conversation forward.

**Structured Contributions:** Organize your thoughts before speaking, and clearly articulate your ideas with evidence to add value to the discussion.

Participation in Teams

**Engaged Collaboration:** Actively participate by sharing ideas, offering feedback, and being open to others' suggestions to contribute effectively to team goals.

**Reliability:** Show reliability by completing tasks on time, attending meetings, and supporting team members to foster a collaborative team environment.

Contribution as a Team Member

**Initiative Taking:** Proactively identify and address gaps in the project, offer to take on additional responsibilities, and support team members in achieving shared objectives. **Effective Communication:** Communicate clearly and respectfully, ensuring that your ideas and concerns are heard and addressed within the team.

Leading a Team/Activity

**Vision Setting:** Provide clear direction and set achievable goals for the team, motivating members and aligning efforts towards the project’s objectives.

**Delegation and Support:** Delegate tasks based on team members’ strengths, provide guidance, and offer support to ensure the team works cohesively towards successful outcomes.

### TECHNOLOGICAL DEVELOPMENTS

1. Generative AI Models

**Overview:** Generative AI models like OpenAI’s GPT-4 and Google’s PaLM are transforming how we create text, images, and even code. These models use large-scale transformer architectures to generate human-like text, create art, and assist in programming tasks.

**Relevance:** In your role, you might use these models for creating content, automating text- based tasks, or developing advanced features in applications such as chatbots, content generation, and creative AI solutions.

**Example:** GPT-4 can be used to develop sophisticated chatbots for customer service or to generate automated summaries of complex research papers.

1. Automated Machine Learning (AutoML)

**Overview:** AutoML platforms like Google AutoML and H2O.ai automate the process of selecting models, tuning hyperparameters, and deploying machine learning solutions. These tools simplify the machine learning workflow.

**Relevance:** In your role, AutoML tools can streamline the model development process, making it easier to build, evaluate, and deploy machine learning models without requiring deep technical expertise.

**Example:** AutoML can be used to quickly develop a machine learning model for predicting customer churn or classifying medical images.

1. AI for Data Privacy

**Overview:** Technologies like differential privacy and homomorphic encryption ensure data privacy and security in machine learning applications. These methods enable the use of sensitive data for training models without exposing individual data points.

**Relevance:** Implementing these technologies in your projects can help comply with data protection regulations and enhance privacy measures in AI applications.

**Example:** Differential privacy can be used in a survey analysis tool to aggregate user data while maintaining individual anonymity.

**4.Quantum Computing for AI**

**Overview:** Quantum computing technologies, such as those developed by IBM and Google, explore quantum algorithms that could significantly enhance computational power for complex AI tasks.

**Relevance:** While still in early stages, quantum computing has the potential to solve problems that are currently infeasible for classical computers, offering future opportunities for advancements in AI research.

**Example:** Quantum computing could be used to optimize complex AI models or solve problems related to cryptography and data security.

5.AI-Powered Development Platforms

**Overview:** Platforms like GitHub Copilot use AI to assist developers by suggesting

code snippets, identifying bugs, and automating repetitive tasks.

**Relevance:** These tools can boost productivity in software development by providing

code suggestions, automating documentation, and reducing debugging time.

**Example:** GitHub Copilot help you write & review code for AI projects by suggesting functions, detecting errors, and providing best practices.

6.AI in Healthcare Technologies

Overview: Recent advancements technologies in AI for healthcare include diagnostic

tools,Predictive analytics for patient outcomes, and AI-driven drug discovery platforms.

**Relevance:** These technologies offer opportunities for developing innovative solutions

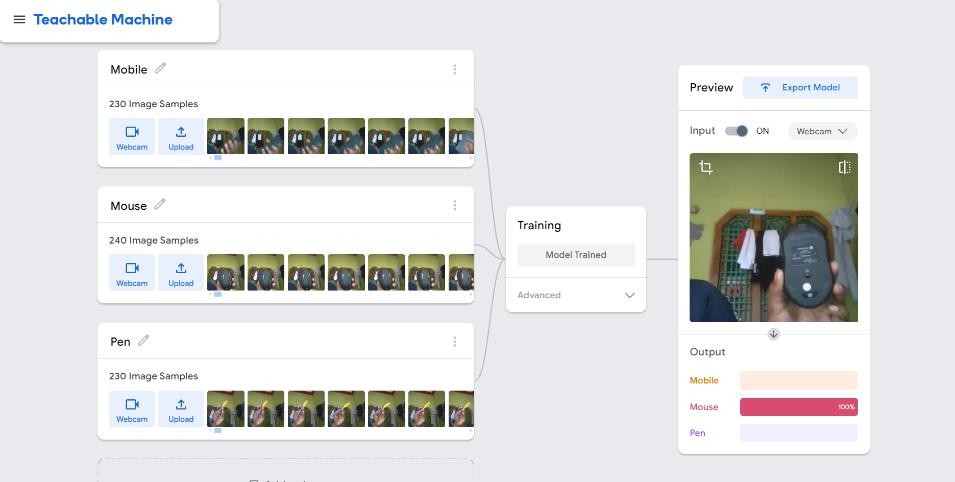
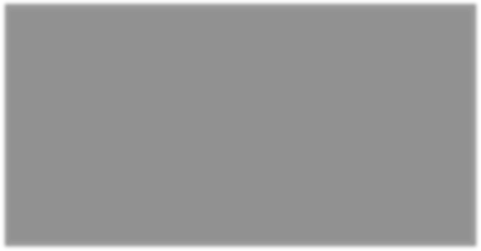
in medical diagnostics, treatment planning, and personalized medicine.

7.AI-Enhanced Cybersecurity

**Overview:** AI technologies are increasingly used for cybersecurity through threat detection, anomaly detection, and automated response systems.Solutions like Darktrace utilize AI to identify and mitigate cyber threats in real time.

**Relevance:** These technologies can be applied to develop secure AI systems and protect against cybersecurity threats in AI-driven applications.

**Example:** AI-enhanced cybersecurity systems can detect unusual activities and prevent potential breaches in sensitive data environments.



Student Self Evaluation of the Short-Term Internship

**Student Name :** S. KANAKA VARAHALU **Registration No**: 22551A04G5

13-05-2024 20-07-2024

**Term of Internship:** SHORT-TERM **From:**

**To :**

**Date of Evaluation:**

**Organization Name & Address:** SKILL DZIRE SOCIETY , VIJAYAWADA

P lease rate your performance in the following areas:

**Rating Scale: Letter grade of CGPA calculation to be provided**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1 Oral communication | 1 | 2 | 3 | 4 | 5 |
| 2 Written communication | 1 | 2 | 3 | 4 | 5 |
| 3 Proactiveness | 1 | 2 | 3 | 4 | 5 |
| 4 Interaction ability with community | 1 | 2 | 3 | 4 | 5 |
| 5 Positive Attitude | 1 | 2 | 3 | 4 | 5 |
| 6 Self-confidence | 1 | 2 | 3 | 4 | 5 |
| 7 Ability to learn | 1 | 2 | 3 | 4 | 5 |
| 8 Work Plan and organization | 1 | 2 | 3 | 4 | 5 |
| 9 Professionalism | 1 | 2 | 3 | 4 | 5 |
| 10 Creativity | 1 | 2 | 3 | 4 | 5 |
| 11 Quality of work done | 1 | 2 | 3 | 4 | 5 |
| 12 Time Management | 1 | 2 | 3 | 4 | 5 |
| 13 Understanding the Community | 1 | 2 | 3 | 4 | 5 |
| 14 Achievement of Desired Outcomes | 1 | 2 | 3 | 4 | 5 |
| 15 OVERALL PERFORMANCE | 1 | 2 | 3 | 4 | 5 |

**Date: Signature of the Student**

S.KANAKA VARAHALU

#### Evaluation by the Supervisor of the Intern Organization

**Student Name**: S.KANAKA VARAHALU

**Registration No:** 22551A04G5

**Term of Internship:** SHORT-TERM **From:** 13-05-2024

**To :** 20-07-2024

**Date of Evaluation:**

**Organization Name & Address:** SKILLDZIRE SOCIETY, VIJAYAWADA

**Name & Address of the Supervisor with Mobile Number**

Please rate the student’s performance in the following areas:

Please note that your evaluation shall be done independent of the Student’s self evaluation

Rating Scale: 1 is lowest and 5 is highest rank

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1 Oral communication | 1 | 2 | 3 | 4 | 5 |
| 2 Written communication | 1 | 2 | 3 | 4 | 5 |
| 3 Proactiveness | 1 | 2 | 3 | 4 | 5 |
| 4 Interaction ability with community | 1 | 2 | 3 | 4 | 5 |
| 5 Positive Attitude | 1 | 2 | 3 | 4 | 5 |
| 6 Self-confidence | 1 | 2 | 3 | 4 | 5 |
| 7 Ability to learn | 1 | 2 | 3 | 4 | 5 |
| 8 Work Plan and organization | 1 | 2 | 3 | 4 | 5 |
| 9 Professionalism | 1 | 2 | 3 | 4 | 5 |
| 10 Creativity | 1 | 2 | 3 | 4 | 5 |
| 11 Quality of work done | 1 | 2 | 3 | 4 | 5 |
| 12 Time Management | 1 | 2 | 3 | 4 | 5 |
| 13 Understanding the Community | 1 | 2 | 3 | 4 | 5 |
| 14 Achievement of Desired Outcomes | 1 | 2 | 3 | 4 | 5 |
| 15 OVERALL PERFORMANCE | 1 | 2 | 3 | 4 | 5 |

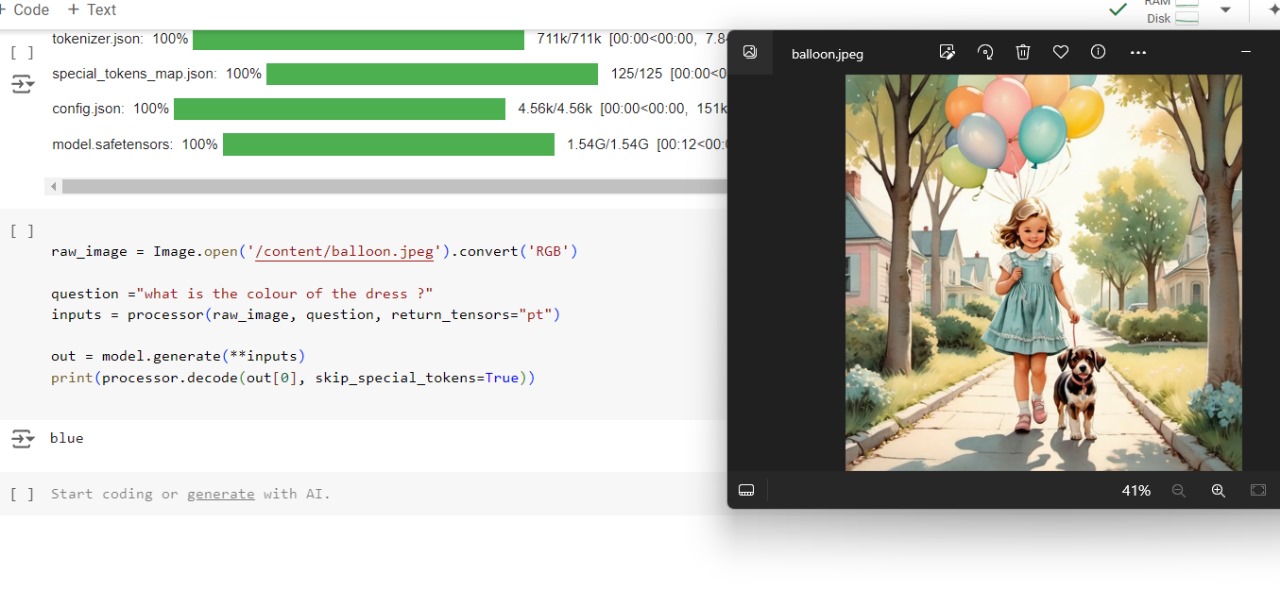
**Date: Signature of the Supervisor**

###### PHOTOS & VIDEO LINKS

**Fig:1 :- Image Classification using google Teachable Machine**

**Fig:2 :- Annotating Images for Object detection in Roboflow**

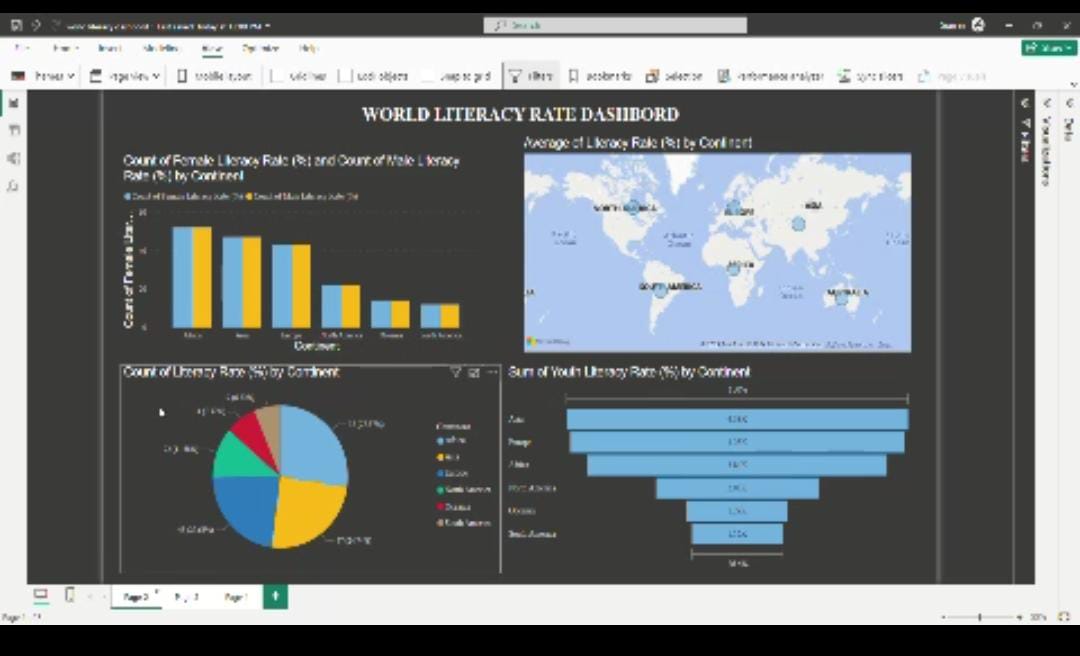
** Fig:3 :- Detecting and identifying images**



**Fig:4 :- Visualisation questioning and answering**



**Fig:5 :- Working with the Cutomized Created chatbot**



**Fig :7 :- Creating an amazing dashboards using PowerBI**

These are some video links that are posted in my linkedin account that which we are created and developed during my internship program.

Imageclassification https://www.linkedin.[https://www.linkedin.com/posts/005b53309\_oViswasri-Beesetti- bject-detection-activity-7225904686787137536-idSQ?utm\_source=share&utm\_medium=member\_android](https://www.linkedin.com/posts/005b53309_oViswasri-Beesetti-%20bject-detection-activity-7225904686787137536-idSQ?utm_source=share&utm_medium=member_android)

Data Visualizations <https://www.linkedin.com/posts/Viswasri-Beesetti-005b53309_power-bi-data-visualization-activity-7225903450314743808-lLdw?utm_source=share&utm_medium=member_android>

Visual Question Answering:<https://www.linkedin.com/posts/Viswasri-Beesetti-005b53309_visual-questioning-and-answering-activity-7225906347022684161-6wkq?utm_source=share&utm_medium=member_android>

Telegram Chatbot: [https://www.linkedin.com/posts/Viswasri-Beesetti-005b53309\_telegram-chatbot- activity-7225903827118374912- 4wcf?utm\_source=share&utm\_medium=member\_android](https://www.linkedin.com/posts/Viswasri-Beesetti-005b53309_telegram-chatbot-%20%20%20%20%20%20activity-7225903827118374912-%20%20%204wcf?utm_source=share&utm_medium=member_android)

# EVALUATION

### Internal Evaluation for Short Term Internship (On-site/Virtual)

Objectives:

* To integrate theory and practice.
* To learn to appreciate work and its function towards the future.
* To develop work habits and attitudes necessary for job success.
* To develop communication, interpersonal and other critical skills in the future job.
* To acquire additional skills required for the world of work.

Assessment Model:

* There shall only be internal evaluation.
* The Faculty Guide assigned is in-charge of the learning activities of the students and for the comprehensive and continuous assessment of the students.
* The assessment is to be conducted for 100 marks.
* The number of credits assigned is 4. Later the marks shall be converted into grades and grade points to include finally in the SGPA and CGPA.
* The weightings shall be:
  + Activity Log 25 marks
  + Internship Evaluation 50marks
  + Oral Presentation 25 marks
* Activity Log is the record of the day-to-day activities. The Activity Log is assessed on an individual basis, thus allowing for individual members within groups to be assessed this way. The assessment will take into consideration the individual student’s involvement in the assigned work.
* While evaluating the student’s Activity Log, the following shall be considered –

1. The individual student’s effort and commitment.
2. The originality and quality of the work produced by the individual student.
3. The student’s integration and co-operation with the work assigned.
4. The completeness of the Activity Log.

* The Internship Evaluation shall include the following components and based on Weekly Reports and Outcomes Description

a. Description of the Work Environment.

1. Real Time Technical Skills acquired.
2. Managerial Skills acquired.
3. Improvement of Communication Skills.
4. Team Dynamics
5. Technological Developments recorded.

**MARKS STATEMENT**

**(To be used by the Examiners)**

###### INTERNAL ASSESSMENT STATEMENT

**Name Of the Student: Programme of Study: Year of Study:**

**Group:**

**Register No/H.T. No: Name of the College:**

**University:**

|  |  |  |  |
| --- | --- | --- | --- |
| ***Sl.No*** | ***Evaluation Criterion*** | ***Maximum Marks*** | ***Marks Awarded*** |
| 1. | Activity Log | 25 |  |
| 2. | Internship Evaluation | 50 |  |
| 3. | Oral Presentation | 25 |  |
|  | GRAND TOTAL | 100 |  |

Date: **Signature of the Faculty Guide**

**Certified by**

Date:

Seal: **Signature of the Head of the Department/Principal**

