

## Weekly Report 01

Question 1: Which topic do you think you know the best that would be required for your FYDP-I?

Answer: I believe my strongest skill, which will be crucial for my FYDP-I (Final Year Design Project I), is my problem-solving ability, along with my enthusiasm for data science and AI. I have honed my problem-solving skills by participating in various programming competitions, which have taught me to approach complex challenges methodically and creatively. My data science and AI skills are currently under development, as I am learning from different renowned courses. These competencies will significantly benefit my project for several reasons:

- **Complex Engineering Challenges:** FYDP-I primarily focuses on tackling complex engineering problems. My strong problem-solving skills will enable me to approach these challenges methodically, identifying root causes and devising effective solutions.
- **Systematic Approach:** Problem-solving involves a systematic approach to understanding issues, breaking them down into manageable parts, and developing strategies to address them. This method is essential for successfully completing intricate engineering tasks.
- **Integration of ML algorithms and AI Solutions:** Since our FYDP is in Data Science and Machine Learning field so with my enthusiasm for AI and ongoing exploration of related concepts, I aim to incorporate basic machine learning models and intelligent systems into the project. While I'm still in the learning phase, this integration will contribute to innovative and more efficient

solutions, leveraging the fundamental principles of AI and its applications.

- **Continuous Improvement:** Problem-solving is a dynamic skill that fosters continuous learning and improvement. It encourages me to seek new knowledge and adapt to emerging technologies, which is vital for a successful project outcome.

Overall, my problem-solving abilities, combined with my enthusiasm for data science and AI, will be a substantial asset in achieving the goals of FYDP-I.

Question 2: What have you learnt from the class held on 02 June 2024?

Answer: In our first class of the semester, we covered several important topics:

- **Course Outline:** We received a detailed overview of the course structure, including key objectives, milestones, and deadlines. This helps us understand the expectations and plan our work accordingly.
- **Selection of Mentors:** The instructor explained the process of selecting both internal and external mentors. Internal mentors are faculty members who will guide us through the academic aspects, while external mentors from the industry can provide practical insights and real-world experience.
- **FYDP Topic Selection:** We were given guidance on how to choose a suitable topic for our Final Year Design Project. This

includes identifying areas of interest, assessing feasibility, and ensuring the topic aligns with our career goals and academic strengths.

- **Types of Research:** The class introduced us to various types of research we can undertake, such as experimental, theoretical, and applied research. Understanding these options allows us to choose the most appropriate research methodology for our project. Our research can be finding a simple this like a limitation. In research, various contributions can significantly advance the field. Discovering that a particular approach leads to a dead end can save others time and resources, adding valuable knowledge. Creating new datasets provides fresh resources for future research, enabling more robust experiments. Additionally, combining existing methodologies to develop a novel approach can lead to innovative solutions and new perspectives. Each of these contributions, whether identifying unproductive paths, developing new resources, or creating unique methods, adds substantial value to the scientific and academic community.
- **Project Limitations:** Our instructor discussed potential challenges and limitations we might face during our projects. This includes resource constraints, time management issues, and technical difficulties. Being aware of these limitations helps us plan more effectively and develop strategies to overcome them.

These are the topics and my learning which were discussed in the class of 02 June 2024.

