Project Development

First let me introduce ourselves:

I am Shreyas Labhsetwar, studying Computer Engg in the 6th Sem, although I guess now I have been promoted to the 7th Sem. Over to you Soumya.

So Soumya and I have been working on a lot of projects since our 3rd Sem, and we will talk more about it very soon. Firstly, I would like to introduce you'll with the various domains in Comp Engg, and you can then choose a project in the domain which you liked the most.

Project Dev in Computer Engg is broadly divided into 2:

H/W and S/W

H/W projects involve using various h/w tools to build up real life working projects such as using Microprocessors, Microcontrollers such has NodeMCU, Raspberry Pi, arduino Uno, etc.

S/W projects involve using various s/w tools to build computer program based projects such as FrontEnd techs, BackEnd Techs, DatabaseTechs, etc.

An ideal complete Engg project would consist of both h/w and s/w well integrated with each other. Such as Mobile Phones: UI is s/w and the Processor, sensors, screen etc are h/w components. Then, moving onto the most innovative topic in tech rn: Self driving cars are also a blend of both h/w and s/w technologies.

Now we will give you a brief idea about the sub-domains in both the categories. Soumya will explain h/w domains.

Coming to the s/w domains, they can be broadly classified as:

Web development : From designing a College Website to designing a COVID tracker. Designing personalised LinkedIN for companies. Personalised WhatsApp for companies in which they can also share code files much like GitHub.

Android Development : Designing a Mental Health Monitoring App, COVID Tracker, COVID Contact Tracing App, Android App for our College where students can submit all their assignments, etc.

Combined Web and Android is called UI/UX dev.

Database Management : It is an integral part of each and every Computer Engg project. S/w projects require dedicated data storage repositories in which all the customer info, product info, transactions info, is recorded. Eg, our college website stores all our data in a MySQL DB.

Cyber Security Systems : Play an essential role in keeping data private and preventing unauthorised access to computer systems.
Eg, no student should be able to change the attendance values stored in the College website DB. There are various security projects which can be taken up such as : https://nevonprojects.com/information-security-projects/

AI/ML systems : This is the most trending topic in the entire world. These projects basically replicate human decision making using computer programs, and can give better insights into various events and decision making capabilities. Various projects include :
Stock Price Prediction, Fake News Detection, Bitcoin Price Predictor, Uber Data Analysis Project, Sentiment Analysis, Speech Emotion Recognition, etc.

Big Data Analytics : This deals with analysing bulk data using computational power. Eg, calculate the total revenue losses incurred by Facebook due to its servers being idle. Such projects would need to analyse extremely huge amounts of data in the order of Petabytes of data. Some project examples are : **Crime Prediction, Analyzing Nuclear Physics Data, Simulating and Predicting Traffic, Modeling Natural Language, Fraud Detection, performing Market Basket Analysis, Weather Data Monitoring System, etc.**

Cloud Systems : Cloud Systems basically provide virtual computers for you to host servers, perform computationally expensive tasks such as AI/ML tasks, BDA tasks, etc. Various Cloud platforms exist including GCP, AWS, Azure, etc.

Full Stack Development : These are fully functional end-to-end s/w programs which include a GUI for its end users integrate with database technologies capable of performing high computation tasks. Eg, Instagram : Android app + Web app + Messaging system (DBMS) + hosted using CN technologies + AI/ML features such as Instagram Filters.

So these were all the various domains and sub-domains as well as the projects which can be taken up in them. Now, lets go through our journey since 3rd SEM.

1. TI project: Drone
2. SIH project: Dr. FarmAI
3. Summer Project : Dr. FarmAI
4. MU Project : MRG
5. Innovathon Hackathon: Dr. FarmAI

6. TI project: Continuing Dr. FarmAI
7. Pravega hackathon : Dr. FarmAI : Adding farby Analysis

Talk something about hackathons.

Hackathon websites:
1. Hackerearth
2. Devfolio

You can also get project topics by viewing the themes of all the hackathons.

Any questions.