

# Problem Statements

- **Agriculture and Rural Development**

1. Agricultural marketing still continues to be in a bad shape in rural India. In the absence of sound marketing facilities, the farmers have to depend upon local traders and middlemen for the disposal of their farm produce which is sold at throw-away price.
2. Water is one of the main resources for farming, how can we regulate water so that every crop gets accurate amount of water. The water regulated to crops should be according to the type of crops, weather, etc.
3. Emergency services for rural areas.
4. Translate weathered information to farmers, providing an accurate solution so that the predicted Weather values can help in building climate resilience of farmers.
5. Real time identification of crops, weeds diseases and nutrient deficiency symptoms.
6. Identify quality index of fruit by minimal destructive methods.

- **Clean Water**

1. Water is available to us in abundance but not all of it is clean, come up with an affordable way to differentiate clean water for poor people.

- **Robotics**

- **Healthcare and Biomedical Devices**

1. Gamification of Health Data Collection.
2. Conventional X ray system is not effective to explain about disease to patient. Using artificial intelligence to help with colour mapping the X rays.

- **Energy / Renewable Energy**

- **Security and Surveillance**

1. Smart security systems for homes (face recognition for usual members...etc.).
2. Develop a cost effective cyber security system.
3. Innovation for women's safety.
4. Accident reporting system and detection of fraudulent accident reports.
5. Fake website detection.

- **Smart Communication**

- **Smart Vehicles**

- **Software - Mobile App Development**

1. An AR application for representation of 3D house in life size for better judgment of course of action during planning phase for construction of a house.
- **Miscellaneous**
    1. Designing a system to detect deception.
    2. Develop a system for common pooling of needed spares among various mechanic shops.
    3. Develop a customer relationship management system.
    4. Develop a time sheet and attendance management system.
    5. Develop a system to help with project management.
    6. The production details are not digitalized. Develop a system for the digitalization of production details.
    7. Create a model that can generate an employee overview.
    8. . Visual inspection of concrete by using image processing tools.
  - **Software – Web App Development**
  - **Travel and Tourism**
  - **Finance**
  - **Life Science**
    1. At times medicines composed with the same formula but differ in prices, make an android app that searches through the internet for a cheaper medicine of same components.
  - **Waste Management**
    1. Design a smart waste collection system that allows citizens to segregate the various types of solid waste they want to dispose and the municipal authorities to efficiently collect the same.
  - **Food Technology**
    1. Create an application to help automate the process of ordering household items.
    2. Inorganic fruits/vegetables contain pesticides, design an apparatus to differentiate organic and inorganic fruits/vegetables.
  - **Smart Education**
    1. Exam paper leaks occur because of having to rely on the individuals that disseminate papers. Design a solution for this problem, such as QR based encoding, that can be implemented on a large scale.
    1. The railway management system in India is way too outdated, how can we update it?
    2. Completely automating traffic signals using cameras and stuff.
    3. An artificially intelligent system that can be used to predict crime.

4. Dealing with Post Accident recovery is a very hectic process. Design a system that can be used to estimate the damage incurred during accidents and automate the process.
  5. Physical presence of traffic police cannot always be satisfied, create a model that can detect people breaking traffic rules and create a report for manual verification.
  6. Flood warning and alert signals.
  7. Game/Simulation on road safety, to create awareness and make the user more for the rules of road and safety. Can also be made as one of the qualifying criteria for a learners licence
- **Sports and Fitness**
    1. A Yoga instructor for people using AR technology.
  - **Sustainable Environment**