

# Potential topics and direction for CS project

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# Overview

- What is CS project?
- Natural Language Processing
- Image Processing & Computer Vision
- Machine Learning & data mining
- Deep Learning and AI
- Multi-modal
- Example projects and some projects done by students
- Conclusion

# What is CS project?

- Problem solving tool of our daily life.
- Applicable to industry.
- Being a student of CS, it is expected to apply a bit mathematical contribution in the project.
- It does not need to be a like master's thesis, which needs a bit extensive analysis and experiments.

# Natural Language Processing (NLP)

- Document representation
- Stemming, lexical analyser
- Classification, summarization, clustering, etc.
- Opinion mining
- Spam detection, intrusion detection

# Image Processing and Computer vision

- Object detection, localization, segmentation
- Image representation
- Image classification, clustering, etc.

# Machine Learning & data mining

- Weather trend analysis, forecasting, etc.
- Market analysis, recommendation, prediction, etc.
- Stock exchange forecasting
- Similarity, measure analysis on numeric and non-numeric datasets
- Time series analysis
- Correlation analysis of data, etc.

# Deep learning and AI

- Convolutional Neural Networks for image processing
- CNN for text processing
- Long short term memory for text processing
- Data augmentation techniques for deep learning
- Data pre-processing techniques for deep learning, etc.

# Multi-modal learning

- Feature selection
- Feature aggregation
- Multi-sensors features fusion
- Ensemble learning



# Example projects

Develop a project to perform market analysis using customer recommendation.

Develop a project to perform stock market trend analysis using machine learning tools.

Develop a project to perform users' behaviour analysis using purchasing history.

Develop a project to identify the interests of user's depending on his online activity.

# Some projects done by students

- Web Museum with Recommendation System (P. Adhikari et al)
- Shopping Item Recommendation using Association Rule (S. Sharma et al)
- Marks Analytics System (P. Niroula et al)
- Wifi Based Indoor Positioning App (J. Dangol et al)
- Web User Behaviour Analysis using Naive Bayes Algorithm (R. jha et al)

# Conclusion

- These project topics are just a general guideline because there may be numerous topics under security, networking, Internet of Things (IoT), Block chain, etc.
- While choosing a topic, it is good to know ourselves and our interests so that we can explore much in the future.
- Similarly, it is wise to work on current trends than traditional trends to sell your knowledge in the market.

Thank you so much!

Questions?

If you need any help, please contact me at:

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