

# Image Captioning using Scala

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# Aim and Inspiration

- To learn scala
- To try out machine learning and get to know about
  - Deep Learning
  - Image processing
- <https://papers.nips.cc/paper/9293-image-captioning-transforming-objects-into-words.pdf> - Research Paper

- Image feature Extraction using Tensorflow
- Model Training Using CNN and LSTM
- Evaluation and Testing
- Flask for API
- Python for initial testing
- Scala for re-implementation of the code
- ReactJS for frontend

# Timeline

- Days 1-3 : Familiarizing ourselves with
  - ① Machine Learning,
  - ② Deep Learning, and
  - ③ Flask
- Days 4-5 : Developing a python code for initial implementation
- Days 6-7 : Training and Testing
  - ① Training the model using the code developed
  - ② Making changes, and accordingly testing the functionality and accuracy
- Day 8-10: Learning Scala, creating an API and frontend interface
- Day 11-12: Developing Scala model
- Day 13 : Training the new model, and testing it
- Day 14 : Integration of the scala code with flask and ReactJS for proper functionality

# Potential Learnings

- Machine Learning
- Deep Learning
- NLP
- Scala
- Flask
- React