

# Report architecture

Paraphrase materials from the reference and coursework documents!

(引用的材料记得用自己的话改写)

+ :: Stick with British English! (**optimisation**, ~~optimization~~)

U-net notebook and functions used in it are commented, check them when confused!

## 1. Introduction [5%] (Xia)

- datasets: check fastMRI.org, read <fastMRI dataset> report, describe the dataset we get, introduce kspace data property and usage, explore the parameters of the training and test data
- task: machine learning task (check MRI\_tutorial\_note.py top)
- goals: what to achieve (check MRI\_tutorial\_note.py top)

## 2. Design [15%] (Wang, Zhou)

- neural network description and justification: introduce adopted customised convolutional net and u-net, their structures, properties, expected performance and why they are chosen (justification)
- experiment factors: first introduce the basic pipeline of the experiment (check mindmap), then choose important/ malleable factors in the steps to experiment with

## 3. Implementation [20%] (Liu, Zhou)

- how to implement in detail: data processing and coding structure
- performance analysis mechanisms: training, testing methods, metrics (SSIM)
- comments in the code: finished code to-date already commented

## 4. Experiments [45%] (Xu) /with other two if cannot be finished in time

- description of experiments to optimise generalization performance
- results presentation, presented in a statistical rigorous manner
- how the training and test data sets are used

## 5. Conclusions [10%] (Xia)

- key findings: check references' structure and expression

- crucial factors: evaluation from the experiment section
  - best generalization performance: report the best result from experiment section
1. Description of contribution [5%] (Xu)
    - members' contribution
  2. Tables and figures (Wang)
  3. Proofreading (Xu, Xia)

Submission: sections before **Wednesday 12 p.m.**, final report before **Friday 5 p.m.**

- group5-coursework.ipynb: source code, report, executable, web link of reconstruction results
- group5-coursework.pdf: jupyter notebook pdf file