

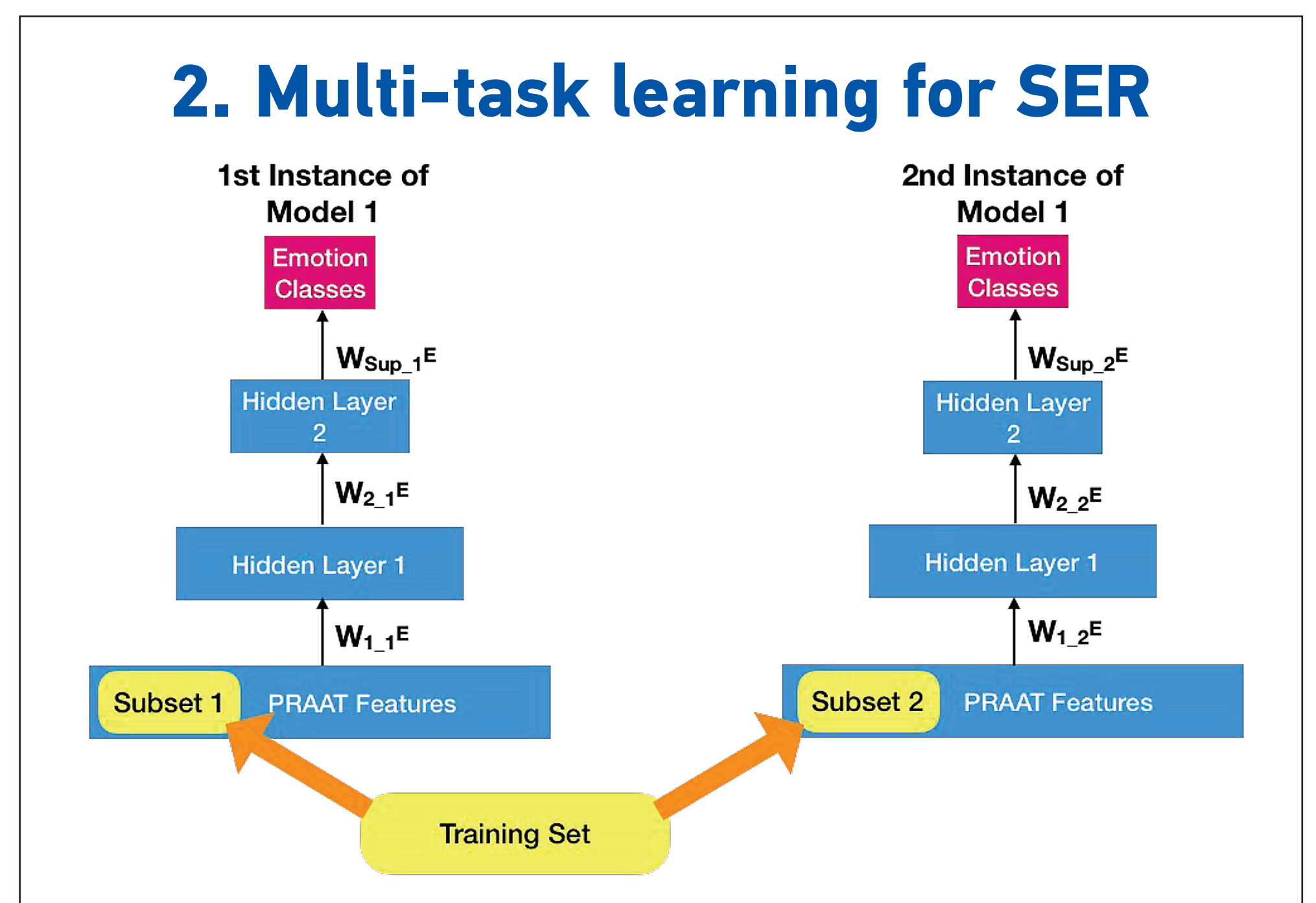
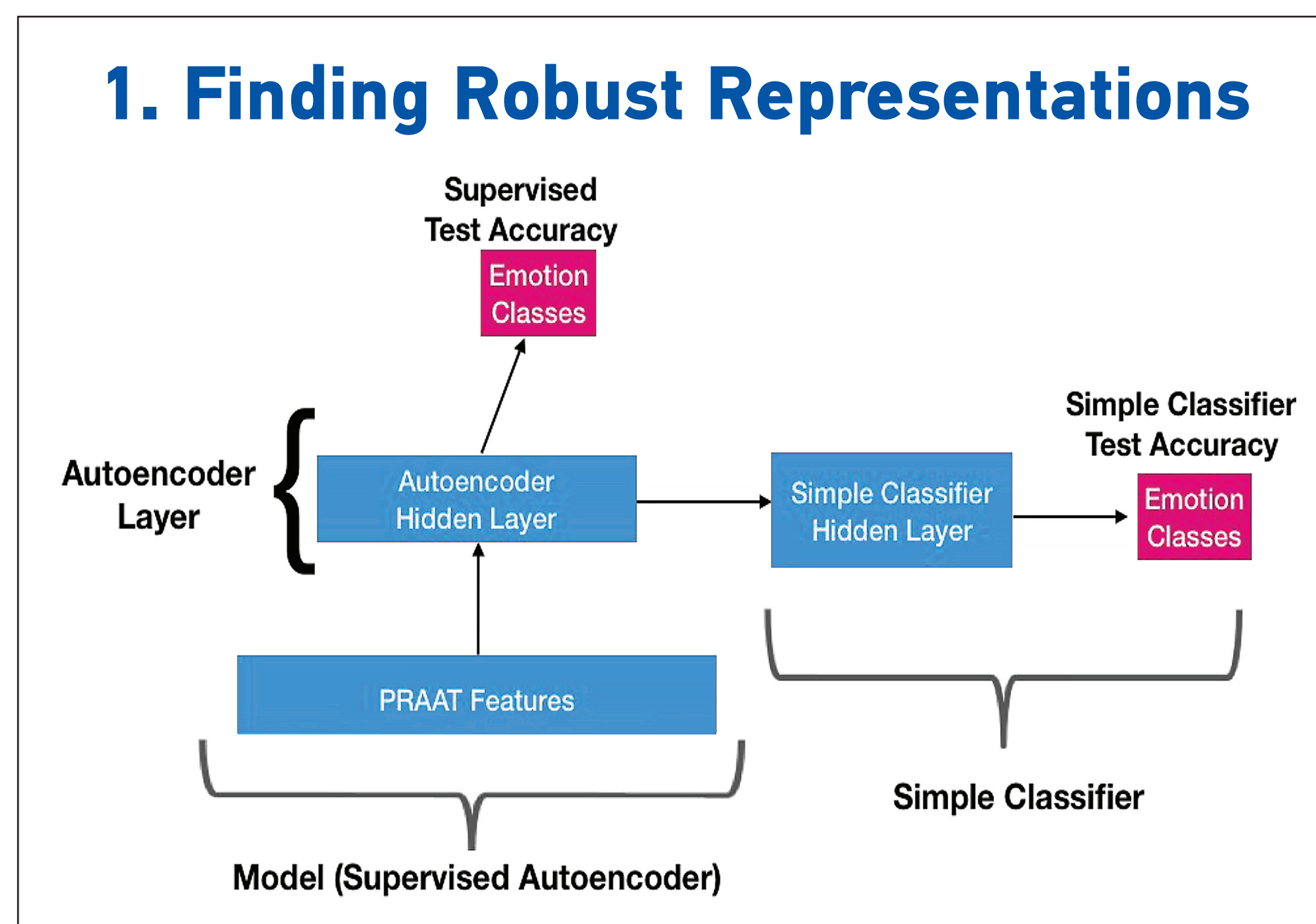
Robust Speech Emotion Recognition with Representation Learning and Multi-Task Learning of Emotion and Gender Classifiers

Student: Kennard Chan Yanting

Supervisor: Prof Jagath C Rajapakse

Project Objectives:

1. Find **robust representations** of speech signals that are invariant to gender of the speaker.
2. Use gender information to improve SER in **Multi-task learning** settings.
3. Introduces **two novel methods** - Class-based and Re-centred (CAR) Data augmentation and Selective Accelerated Learning (SAL) - that significantly improves SER scores.



Technique	Simple Classifier Test Acc
Supervised Autoencoder (above)	55.9%
Autoencoder (Baseline)	54.0%

Technique	Test Acc
Gender Information Capitalization MTL (above)	80.9 %
w/o Gender Information Capitalization MTL	78.7%

Results:

We observe significant improvements in accuracy when our techniques are employed to generate robust representations (above left). Similarly, MTL techniques (above right) developed by us achieved significant results.