Write a paper (one per group) in which you briefly introduce the problem, a baseline approach, your own additions, results, and conclusions. Use the **[IEEE double-column format](https://www.overleaf.com/latex/templates/ieee-conference-template/grfzhhncsfqn)**

**[(Links to an external site.)](https://www.overleaf.com/latex/templates/ieee-conference-template/grfzhhncsfqn)**

and **max. 4 pages**. You are allowed and expected to use ideas from literature and on the internet. Make sure you properly cite all the relevant sources in your paper. The assignment will be graded on paper quality, experimental setup, demonstrated insight, and originality. What we at least expect is:

* Introduction to the problem: What are the challenges? What are logical options to address them? What has been done for this or similar problems?
* Baseline implementation and results, using an off-the-shelf segmentation model.
* Improvements to that baseline, backed with experiments and results. Motivate your choices and explain your observations.
* Discussion on limitations and options to further improve.
* Clear and concise figures and tables to support your findings.

We encourage you to use the discussion boards on Canvas. Students who share their experiences may receive some bonus points for doing so! Additionally, bonus points will be awarded to teams that get a high score.

Submit your paper, notebook, and other code to Canvas when you're finished.

Good luck!

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| **Assignment rubric** |
| This criterion is linked to a learning outcome  Template exercises correctly answered  IoU implementation, loss choice, and optimizer choice are correct. |
| Baseline  The baseline implementation follows the method of a published work exactly. Hyperparameters are (manually) optimized before comparing results. The model yields practical results that are suitable for comparing improvements against. |
| Improvements  Improvements are made in the domains of data augmentation, automated hyperparameter tuning, and neural architecture. |
| This criterion is linked to a learning outcome  Presentation  The results are presented in clear and concise figures. All numerical values are in tables. The paper uses unambiguous language. There are no grammar or spelling mistakes. |
| Method  The experimental setup is free of errors. The code is of excellent quality. Data is recorded and saved from the training and inference processes correctly. |
| Introduction  An introduction to the task, related work, and a problem statement is given. |
| This criterion is linked to a learning outcome  Discussion and conclusion  Results are interpreted in an insightful way. Claims are supported by evidence. Recommendations are given. Caveats are outlined. |
| This criterion is linked to a learning outcome  Performance  The IoU accuracy of the solution is competitive. |