

# Project Proposal

## Segmentation in Medical Imaging

Zhaotian Fang (z23fang)

Zhaotian Fang (z23fang)

Zhaotian Fang (z23fang)

October 23, 2019

CS221

Autumn 2019

Stanford University

# 1 Introduction

## 2 Problem

## 3 Method

## 4 Dataset

## 5 Baseline & Oracle

## 6 Evaluation

## References

- [1] P. Soviany and R. T. Ionescu, “Optimizing the trade-off between single-stage and two-stage object detectors using image difficulty prediction,” 2018.
- [2] J. Hosang, R. Benenson, and B. Schiele, “Learning non-maximum suppression,” *2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Jul 2017. [Online]. Available: <http://dx.doi.org/10.1109/CVPR.2017.685>
- [3] N. Bodla, B. Singh, R. Chellappa, and L. S. Davis, “Soft-nms – improving object detection with one line of code,” *2017 IEEE International Conference on Computer Vision (ICCV)*, Oct 2017. [Online]. Available: <http://dx.doi.org/10.1109/ICCV.2017.593>
- [4] S. Liu, D. Huang, and Y. Wang, “Adaptive nms: Refining pedestrian detection in a crowd,” 2019.
- [5] J. Hosang, R. Benenson, and B. Schiele, “A convnet for non-maximum suppression,” *Pattern Recognition*, p. 192–204, 2016. [Online]. Available: [http://dx.doi.org/10.1007/978-3-319-45886-1\\_16](http://dx.doi.org/10.1007/978-3-319-45886-1_16)
- [6] Y. Liu, L. Liu, H. Rezatofighi, T.-T. Do, Q. Shi, and I. Reid, “Learning pairwise relationship for multi-object detection in crowded scenes,” 2019.
- [7] P. Isola, J.-Y. Zhu, T. Zhou, and A. A. Efros, “Image-to-image translation with conditional adversarial networks,” *2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Jul 2017. [Online]. Available: <http://dx.doi.org/10.1109/CVPR.2017.632>
- [8] A. H. Lang, S. Vora, H. Caesar, L. Zhou, J. Yang, and O. Beijbom, “Pointpillars: Fast encoders for object detection from point clouds,” 2018.

- [9] T. Salimans, I. Goodfellow, W. Zaremba, V. Cheung, A. Radford, and X. Chen, “Improved techniques for training gans,” 2016.
- [10] J. Li, X. Liang, Y. Wei, T. Xu, J. Feng, and S. Yan, “Perceptual generative adversarial networks for small object detection,” *2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Jul 2017. [Online]. Available: <http://dx.doi.org/10.1109/CVPR.2017.211>