

# **Topics in Virtual Reality: Mathematical Methods for Visual Computing**



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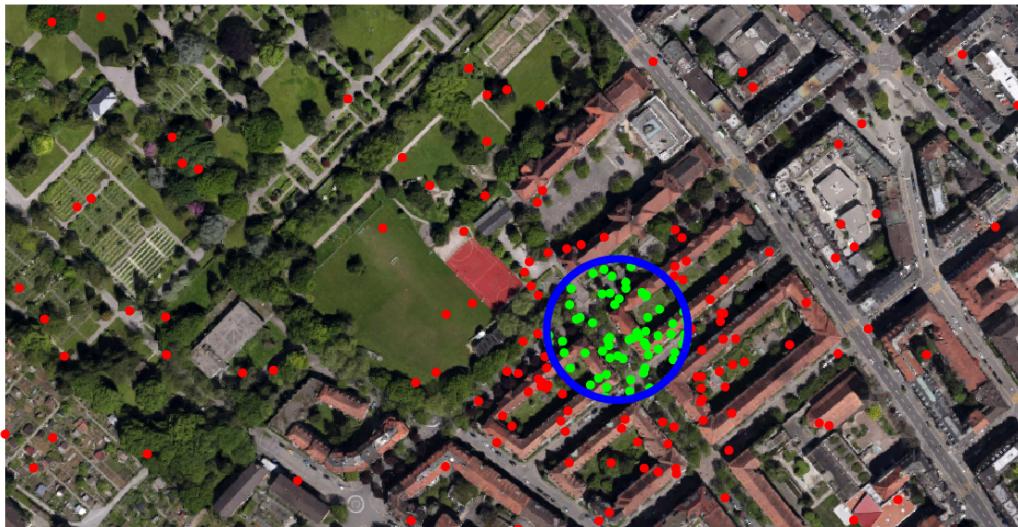
# Organization

Homework#3

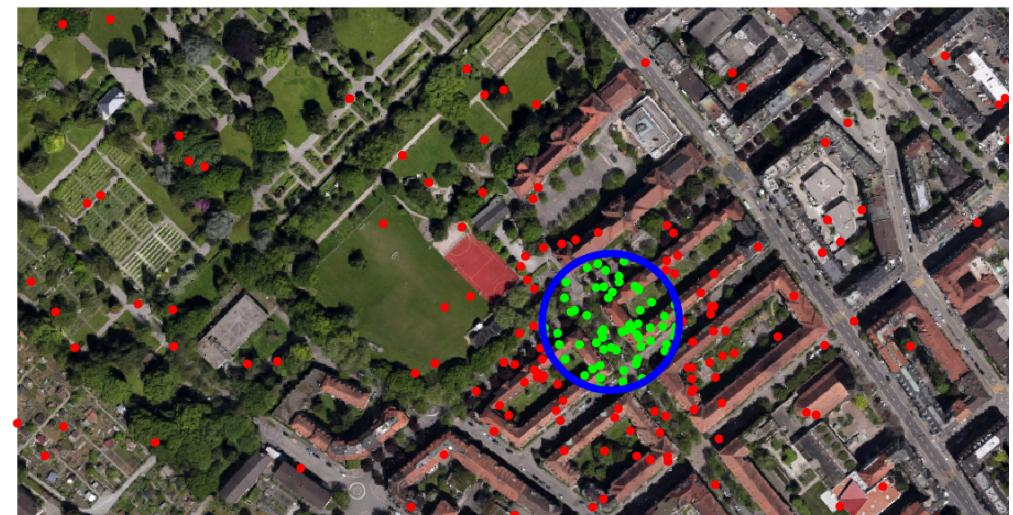
Presentation date: Monday 22 October 2018

Submission deadline: Monday 5 November 17:59

Demo date: TBA



# Exercise 3



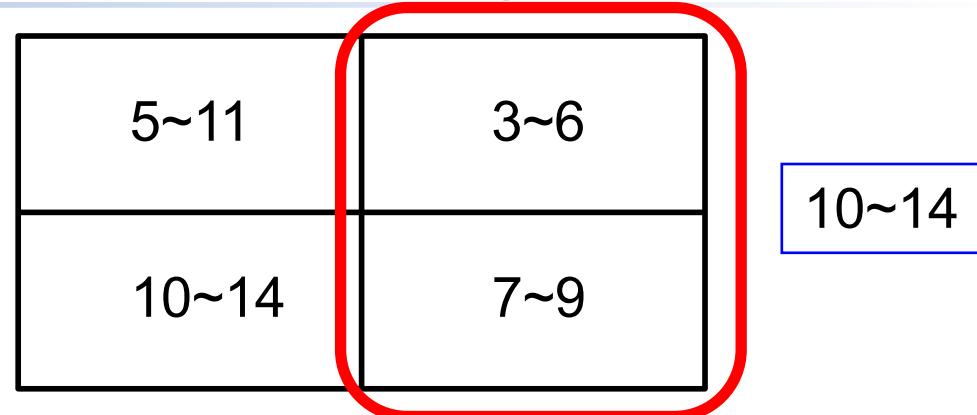
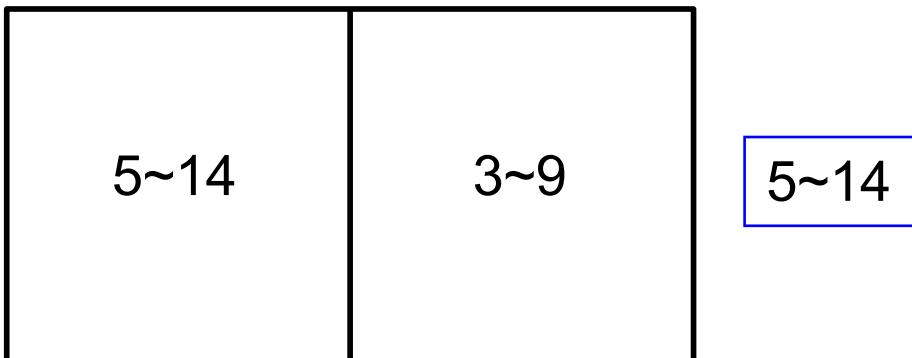
Inputs:

- set of 2D points
- antenna coverage radius

Outputs:

- Antenna maximizing the coverage
- Antenna location (x,y)
- Inliers and outliers

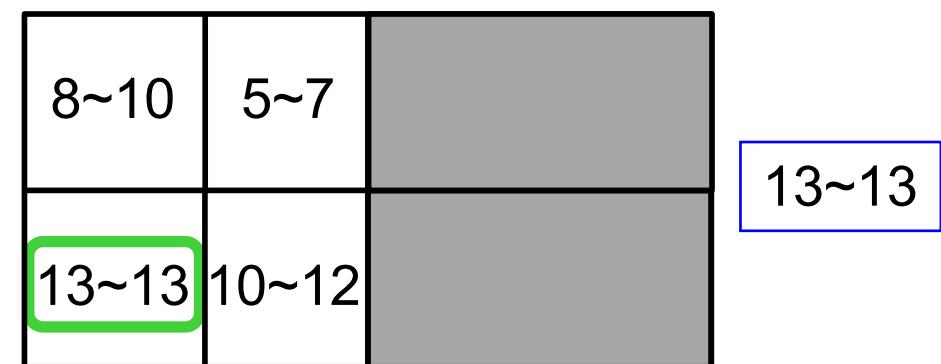
# BnB – max cardinality



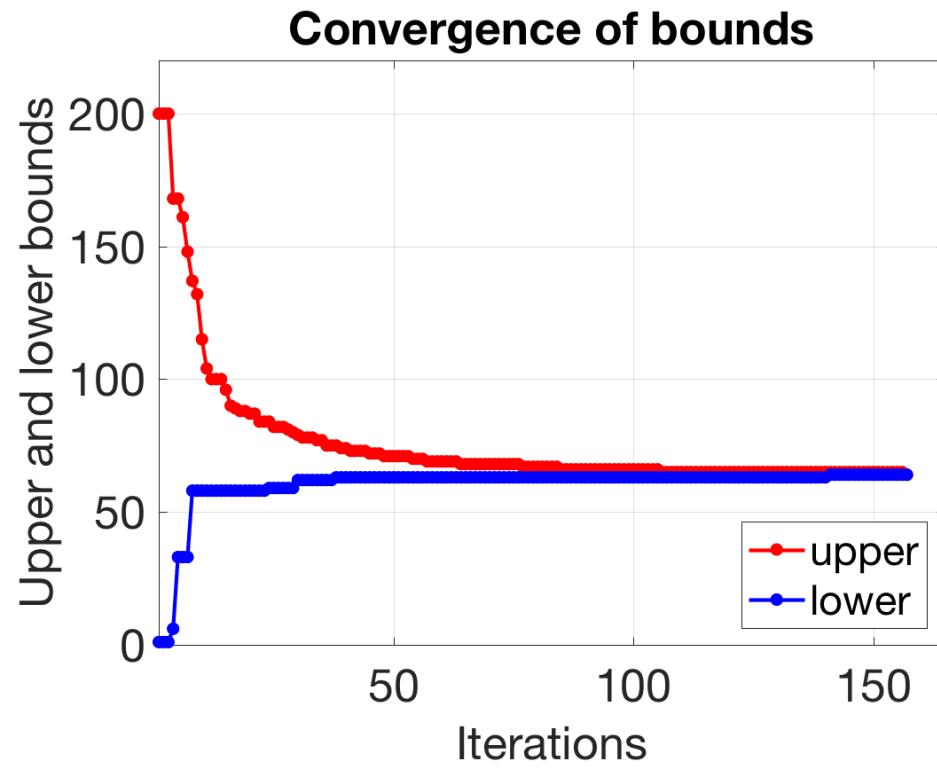
Goal: find the max cardinality

Note: the bounds might not be strict!!

Ex:  $3\sim 9$ : the true extremes can be 4 and 5



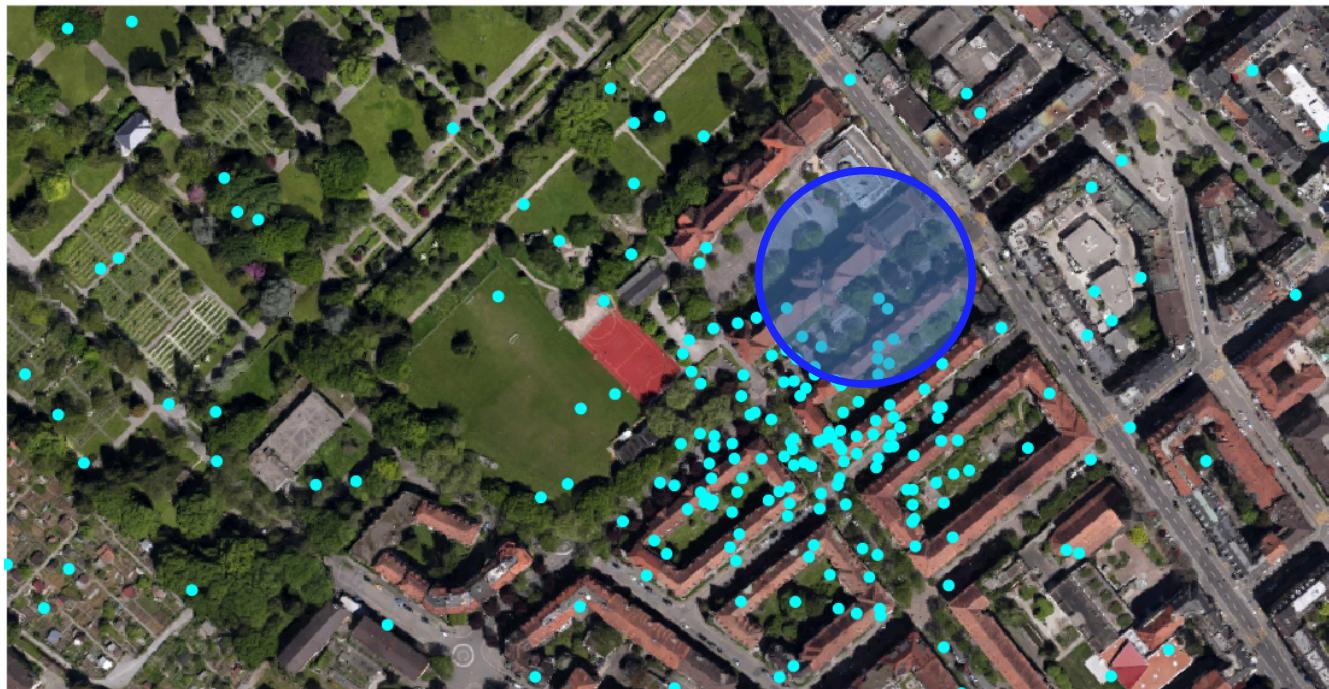
# Exercise 3



Evolution of the bounds of the nb of inliers

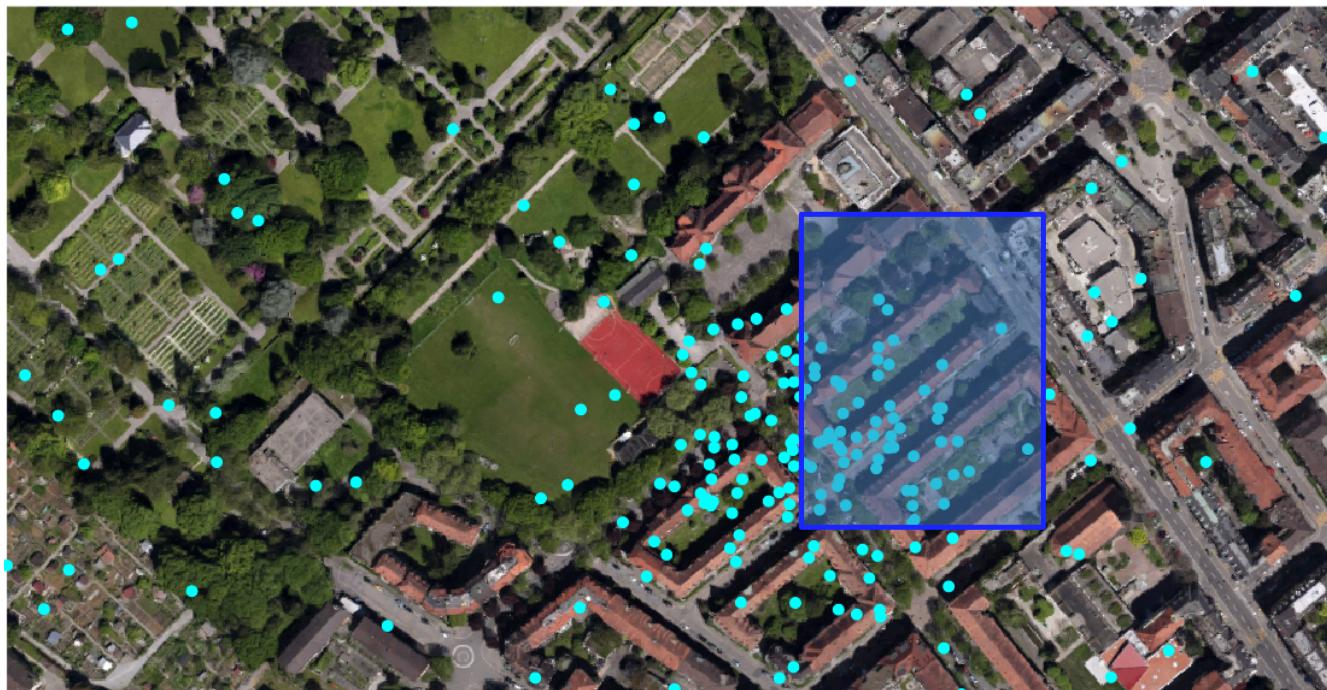
# Approach

Lower bound: testing a particular antenna location



# Approach

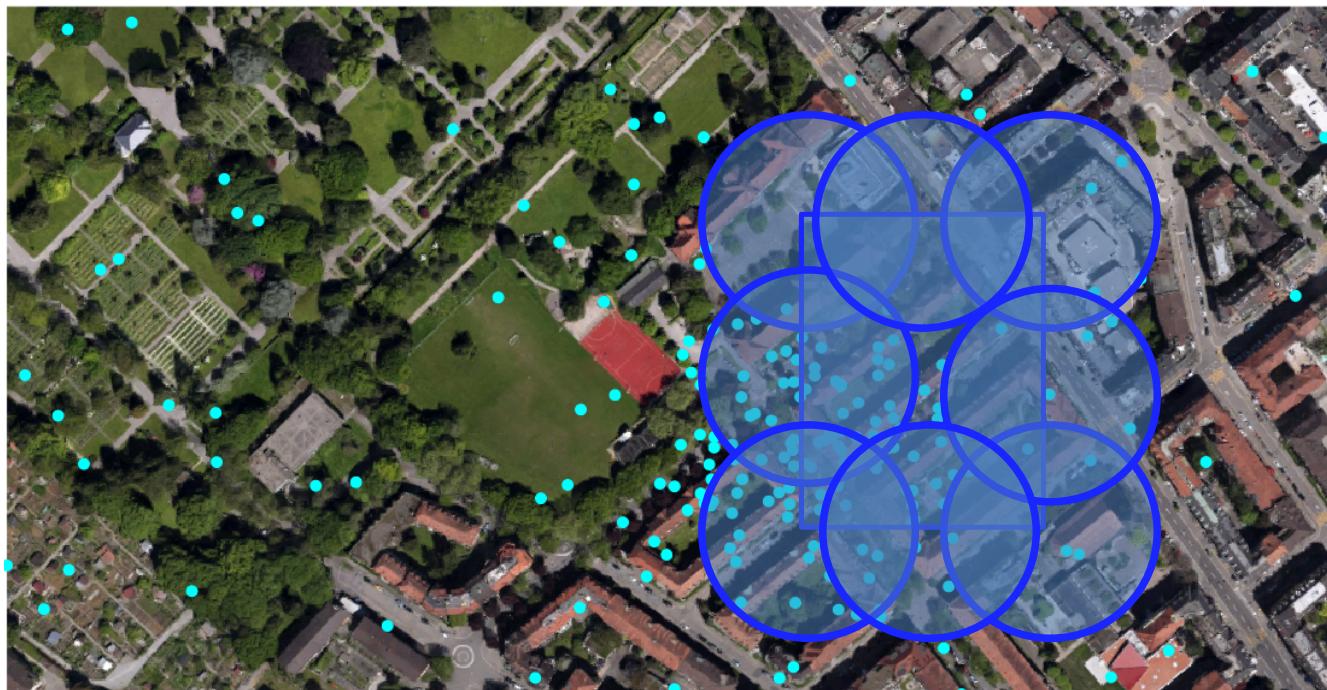
Upper bound: testing the union of all the antenna locations in the current space  
→ extended shape



Range of  
the current  
space

# Approach

Upper bound: testing the union of all the antenna locations in the current space  
→ extended shape



# Approach

Upper bound: testing the union of all the antenna locations in the current space  
→ extended shape

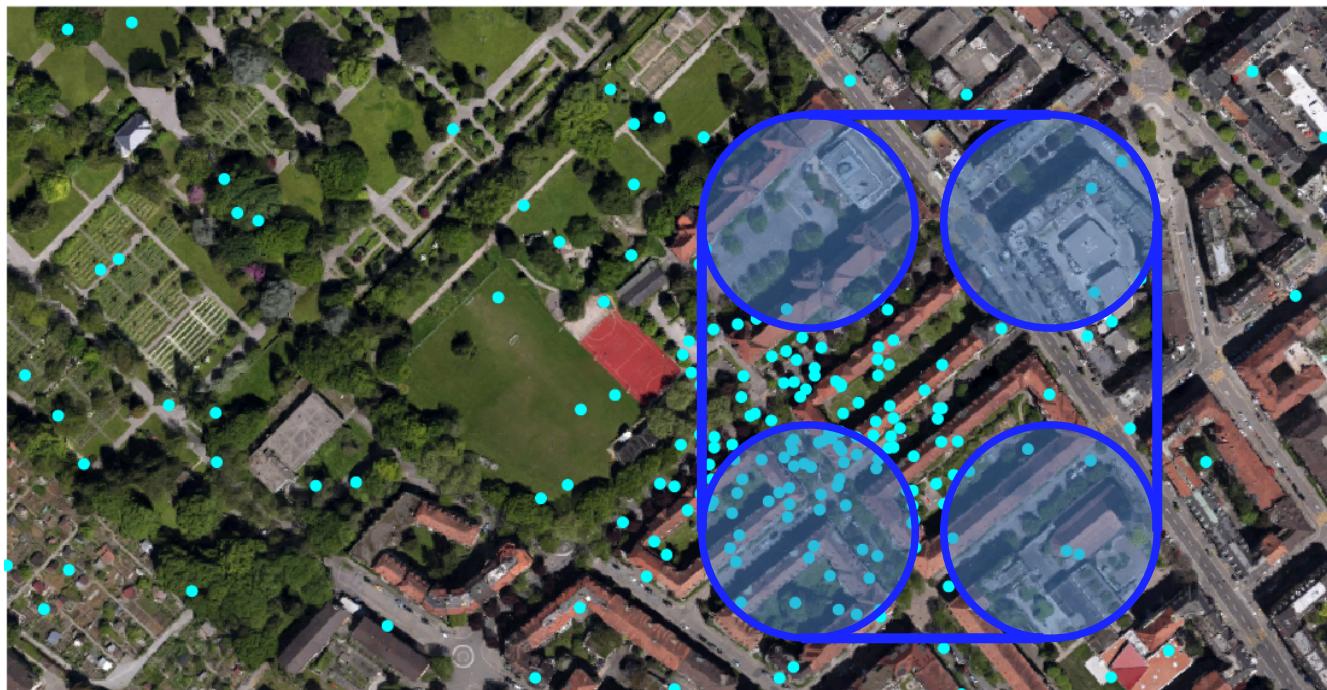


Illustration  
of the  
extended  
shape

# Questions?

