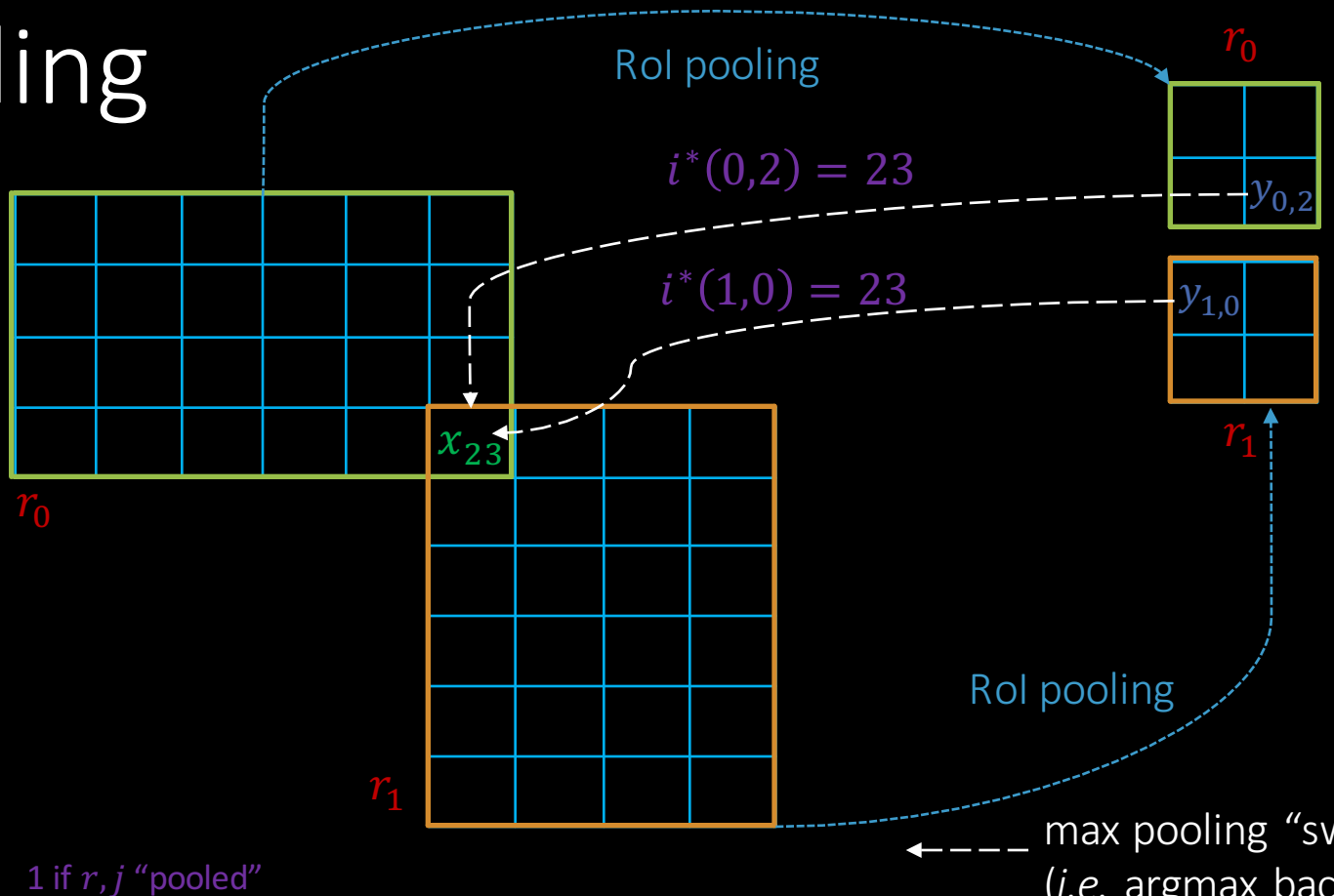
# Obstacle #1: Differentiable RoI pooling




$$\frac{\partial L}{\partial x_i} = \sum_r \sum_j [i = i^*(r,j)] \frac{\partial L}{\partial y_{rj}}$$

1 if $r, j$ "pooled" input $i$; 0 o/w

Partial for $x_i$

Over regions $r$, locations $j$

Partial from next layer