Quiz 10 Name: Student ID:

Q1. (2pts) Briefly explain principal component analysis (PCA)

Q2. (2pts) How to do PCA without using the general SVD (hint: explain eigenvalue decomposition and how we can use it for PCT)

Q3. (2pts) If we simply use the location information to overlay two geographic datasets for generating annotations (e.g., using OpenStreetMap roads to annotate road pixels on satellite imagery), what would be the challenges and why?

Q4. (2pts) Describe two challenges in object detection from satellite imagery and how the You Only Look Twice paper solve them.

Q5. (2pts) In the conflation technologies introduced in class, once we identify control point pairs, how do we filter out the unlikely ones?