Day 1. Questions.

Lecture 1. What are the major challenges of vision? What is Bayes rule – and how does it relate to vision?What are the differences between generative and discriminative models of vision?

Lecture 2. What is segementation? What types of cues are used to perform it? What evidence from images is used to justify this? Briefly describe linear filters.

Lecture 3. Describe statistical edge detector. What are conditional probability distributions? What ere the priors on edges and why are they needed? What are the advantages of this approach? What are the limitations? How can this be formulated as regression?

Lecture 4. Describe the TV-norm smoothing method. What algorithms can be used to perform it and what performance guarantees does it have? How does this relate to the statistics of images? What applications can this model be applied to?

Lecture 5. What is Manhattan world? What is perspective projection. What are vanishing points? How can you use hidden variables m to model whether an image pixel corresponds to different types of edges. What is model selection and how is it used to estimate whether an image has a Manhattan structure or not?

ge is non-Manhattan, otherwise it is Manhattan.