

ICVSS 2018 Reading Group

The goal of the reading group is to learn how to get the best out of reading papers and listening to seminars. You will explore establishing connections between work you have carefully studied, and what you hear at the school. This requires going beyond “the story” and is best done by formalizing ideas to a common (e.g. mathematical) language, so that connections are easily seen.

Prior to the school:

Seed Paper: You will be randomly assigned to a mentor among the lecturers, who will suggest one or more “seed” papers or books that motivated or inspired their work. You should study, not just read, the seed paper(s) prior to traveling to the school.

Team Organization: Due to privacy laws, we cannot distribute mailing lists of who is in what group. However, we have found that students are adept at finding each other through social media and self-organize prior to arriving at the school. In any case, once at the school, please find your peer group and have a preliminary meeting to elect a team lead and a scribe, and start discussing the findings of your readings, and prepare for the mentorship hour described next.

At the school:

Mentorship Hour: Together with fellow students, you will spend at least one hour with your mentor, during which you will have an opportunity to ask questions, discuss ideas, receive guidance on the big picture. You are encouraged to continue the conversation with your fellow students beyond the mentorship hour.

Plenary Discussion: The lead of each group will submit a brief report (up to 6 pages of narrative, or up to 10 slides with presenter notes) of their discoveries/findings/conclusions. Based on the report, the organizers will select a subset to present and discuss in the plenary session. The mentors will be in the audience, together with the organizers and your fellow students. The discussion will be guided by the Reading Group coordinator, who will give an introductory presentation.

Prize(s): The group(s) whose report was found most interesting, insightful, enlightening, inspiring ... as judged by the audience, will be awarded the reading group prize(s).

PS: Note that, in some cases, your mentor's presentation will be after the final reading group competition, which is on Thursday. This is unavoidable, and groups are randomly assigned to mentors, so you can blame chance in case of an unfortunate assignment. Nevertheless, in the past we have seen great shows of leadership by students, even if their mentor's presentation was on Friday.

This year, the prize will be in the form of AWS credits, with a total of \$5,000 to be distributed among the winners.

READING GROUPS @ ICVSS 2018 – GROUPS AND SEED PAPERS

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Mentors	Larry Davis and Georgia Gkioxari	Daniel Cremers and George Klein	Andrew Davison and Victor Lempitsky	James DiCarlo and Tom Drummond	Paolo Favaro and Carl Vondrick	Chelsea Finn and Josh Tenenbaum	Antonio Torralba and Andrew Rabinovich	Hugo Larochelle and Stefano Soatto

Lecturer	SEED PAPER 1	SEED PAPER 2	SEED PAPER 3
Larry Davis	M. Minsky, Steps towards AI	The Frog's eye	McCullough's autobiography
Andrew Davison	"Contour tracking by stochastic propagation of conditional density", Michael Isard and Andrew Blake, ECCV 1996.	-	-
Andrew Rabinovich	The Representation and Matching of Pictorial Structures	Contour and Texture Analysis for Image Segmentation	-
Carl Vondrick	Scene Completion Using Millions of Photographs	80 million tiny images: a large dataset for non-parametric object and scene recognition	-
Victor Lempitsky	A Morphable Model for The Synthesis of 3D Faces	Fast Approximate Energy Minimization via Graph Cuts	-
Georgia Gkioxari	Biederman et al., Scene Perception: Detecting and Judging Objects Undergoing Relational Violations	Fischler & Elschlager, The perception and matching of pictorial structures	-
Paolo Favaro	Barlow, H. B. (1989). Unsupervised learning. Neural Computation, 1, 295–311	-	-
Chelsea Finn	From Socrates to Expert Systems: The Limits and Dangers of Calculative Rationality	Dyna, an integrated architecture for learning, planning, and reacting	-
Daniel Cremers	J. Weickert (1997), "A Review of Nonlinear Diffusion Filtering"	-	-
Hugo Larochelle	Distributed Representations. Hinton et al. 1986	Representation Learning: A Review and New Perspectives. Bengio et al. 2013	-

Georg Klein	Real time localization and 3d reconstruction. Mouragnon et al, 2006 https://hal.archives-ouvertes.fr/hal-00091145/document	-	-
Tom Drummond	Rapid Object Detection using a Boosted Cascade of Simple Features, Viola & Jones, 2001	-	-
Antonio Torralba	Principles of Object Perception, Elizabeth S. Spelke, 1990	Learning classification with unlabeled data, Virginia R de Sa, NIPS 1994	-
Josh Tenenbaum	Spelke: Origins of Knowledge Psych Review 1992; Principles of Object Perception 1990	Geoff Hinton's "the wake-sleep algorithm for unsupervised learning" (Science 1995)	A chapter by Judea Pearl, either http://bayes.cs.ucla.edu/BOOK-99/ch1.pdf , or http://bayes.cs.ucla.edu/WHY/why-ch1.pdf ,
James Di Carlo	<i>Fukushima, K. Neocognitron, Biol. Cybernetics (1980) 36 p.193-202</i>	<i>Johnson, K.O. Neural Coding, Neuron (2000) 26:3 p.563-566</i>	<i>Foldiak, P. Learning Invariance from Transformation Sequences Neural Computation (1991) 3:2 p.194-200</i>