Aalto University
School of Electrical
Engineering

Dissertation press release **12.10.2020**

How to develop ideas with machines? Creating collaborative AI for professional ideation

Title of the dissertation	Collaborative Systems for Design Inspiration
Contents of the dissertation	When we look for a new project idea we often find inspiration from other objects, ideas or people. Developing such ideas and concepts is the essence of design practice. The proliferation of online material has revolutionized the way everyone and especially designers can access and collect such inspirational material. And yet, as much as technology supports us, the way we interact with computers often hinders this central aspect of design. Interactive systems, including so-called " Artificial Intelligences," are not well-known for their creativity – yet. My work focuses on how such intelligent systems can help professional designers find and reflect upon visual inspirations in the form of collages, especially when their topics of interest are hard to explain with words. In this context I created three intelligent design systems for professional ideation. *SemanticCollage* helps designers identify the semantic meaning of images found online and reflect about them. In *MayAI* I built artificial agents that develop ideas together with designers by constantly learning, suggesting and communicating their 'ideas'. Finally, *ImageSense* develops these ideas further for design teams to work together with serendipitous content browsers, semantic tools, and artificial agents. Each of these systems were evaluated with and by professional designers to demonstrate and document the roles AI can play in creative exploration. My work extends our understanding of intelligent collaborative systems for creative processes, and opens new ways to assist designers in the era of digital ideation.
Field of the dissertation	Human-Computer Interaction
Doctoral candidate	Janin Koch, M.Sc.
Time of the defence	30.10.2020 time 14:00 (Helsinki time)
Link to the defence	https://aalto.zoom.us/j/67874841474
Opponent	Professor Peter Dalsgaard, Aarhus University, Denmark
Custos	Professor Antti Oulasvirta., Aalto University School of Electrical Engineering, Department of Communications and Networking
Electronic dissertation	https://aaltodoc.aalto.fi/handle/123456789/46910
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