

PhD Research Fellow in Eye movement modelling

A position as PhD Research fellow is available in the Vision and Brain Signal Processing (ViBS) team in the GIPSA-Lab, University of Grenoble-Alpes, France. The PhD grant is part of the AGIR project “EyeStat” which aims at testing novel statistics tools based on point process theory to model eye movements. The project involves researchers from three different labs: GIPSA-lab (Grenoble, Images, Speech, Signal and Control), Laboratory Jean Kuntzmann (LJK, applied mathematics and computer science) and the Laboratory of Psychology and NeuroCognition (LPNC).

Topic:

One of the core problems in vision science is to understand and predict gaze (where people look at? For how long?). Based on the features of an image, can we determine what will attract a person's attention? Visual saliency models are meant to do just that, and recent versions have shown some empirical success. However, they have two major limitations: (a) they do not take the 3D structure of the scene into account and (b) they cannot make use of non-visual information (such as sound, for example). Our team has developed experimental protocols and acquired datasets to address the influence of depth and sound information on gaze control. We have also developed novel statistical tools, based on point process theory, for the prediction and analysis of eye movements. The thesis project will consist in integrating these experimental and theoretical tools to model the influence of depth and multi-modal information on gaze control.

References

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