The Field Robotics Center

Seminar Series

Tuesday 8th May

GHC 2109 11am - 12noon
Pizza will be served

Michael Furlong
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Simulating global motion detection in Macaque visual cortex and it's application to optical flow

Abstract: Pattern cells in area V5/MT represent an intriguing step in the visual hierarchy, whereby neurons become sensitive to global motion, rather than simply to the motion of constituent components, cells in the primary visual cortex (V1). A number of models have been proposed to explain this (Simoncelli & Heeger, 1998), (Nowlan & Sejnowski, 1995), but a recent attempt by Rust et al. (2006) is particularly simple, in that it requires only two stages of normalization and the appropriate pooling of V1 signals to fit a broad range of behavior from pattern to component cells. This talk presents a feed-forward network constructed of spiking neurons and highlights potential applications to visual ego motion detection in robotics.

Speaker Bio: Michael Furlong is a Ph.D candidate in the Field Robotics Center working on science autonomy.

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