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University of Nevada, Reno

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# Brainstem: A NeoCortical Simulator Interface for Robotic Studies

A thesis submitted in partial fulfillment of the  
requirements for the degree of Master of Science  
with a major in Computer Science.

by

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**Abstract:** “A Hybrid Neuromorphic/AI Socially Interactive Robotic Sentry” is an ongoing project that was proposed by Goodman Brain Computation Lab, University of Nevada, Reno. The goal of this project is to build neuromorphic systems that could make decision in real-time based on brain physiology. The entire system will include the following components. First, NCS, running on a Remote Beowulf Cluster, is the software that provides the computation power to run the cortical simulation. Secondly, AIBO, robotic dog provided by Sony. Third, a laptop with a wireless adapter, which contains the AI components and models brainstem functionality. We call this last component Brainstem. This thesis will talk about the development of the software for Brainstem.

**3:00, Monday, October 30, 2006**

Scrugham Engineering and Mines (SEM) room 201

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