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Dear Search Committee:

I am writing to enthusiastically recommend Pradeep Shenoy for the Assistant Professorship in your department. I first met Dr. Shenoy at the Computational and Systems Neuroscience conference in March, 2009, where he presented a fascinating poster on adaptive learning as a function of internal uncertainty and stimulus noise, a topic also of great interest in my own research. That meeting led to a collaboration to model how decision and control policies can be optimized adaptively in the face of sensory noise, environmental non-stationarity, and stochastic reward contingencies. Our initial collaboration quickly resulted in publishable work, and I invited Dr. Shenoy to join my lab as a postdoctoral fellow from January, 2010.

I am very impressed with how readily Pradeep picked up psychology and neuroscience concepts and data despite his very switch from a computer science background, and no neuroscience publications prior to working with me. He has that valuable but uncommon ability to translate behavioral or neural phenomena into quantitatively precise models and the theoretical results into concrete experimentally verifiable predictions. Our work together rapidly resulted in posters at the SfN annual meeting (Shenoy, Rao, & Yu, 2009, "An optimality framework for understanding inhibitory control in countermanding tasks"; Shenoy & Yu, 2010, "Optimal decision-making and inhibitory control in the stop-signal task: Go and stop latencies both depend on go stimulus difficulty"; Shenoy & Yu, 2011, "Rational decision-making underlies systematic differences in speed and accuracy between 2AFC and Go/NoGO tasks") and Cosyne conference (Shenoy & Yu, 2010, "An optimality framework for understanding the psychology and neurobiology of inhibitory control; Shenoy & Yu, 2011, "Wherefore a race model: Inhibitory control as optimal decision-making"), a much coveted full oral presentation at the 2010 NIPS meeting (Shenoy, Rao, & Yu, 2011), an invited book chapter (Shenoy & Yu, 2011), a peer-reviewed journal paper (Shenoy & Yu, 2012), two more journal papers under review, and several under preparation. He has also played an instrumental role in establishing and maintaining two very promising experimental collaborations with two fMRI groups. One of these collaborations, with Dr. Martin Paulus in the UCSD Psychiatry Department, has already resulted in a set of preliminary results that helped to secure an NIH (NIDA) R03 grant -- looking at how casual stimulant users and healthy controls subtly differ in behavior and neurophysiology in decision-making and learning tasks. And the other has resulted in exciting results showing that a cortical structure, the dorsal anterior cingulate cortex, appears to encode a dynamic, context-dependent Bayesian surprise signal -- this paper has just been submitted to a high-profile journal for review.

Aside from research, Pradeep has also been immensely helpful in both tutoring the graduate students and teaching assistants in my laboratory, as well as substituting for me in several undergraduate courses when

needed. The feedback I have received from students have been uniformly positive. Pradeep also taught Cogs 118A (Natural Computation I, covering machine learning methods and applications to cognitive science and neuroscience) in the winter quarter of 2012, and received 100% student approval ratings for both the course and the instructor, which are way above average compared to historical data on this course (as Cognitive Science undergraduate students usually find this material difficult to digest).

I believe that Pradeep will prove a most valuable asset to your department. His thoughtfulness, keen intellect, and the ability to work at the interface of several areas position him well for an interdisciplinary post. I strongly hope that you will consider his application favorably.

Yours sincerely,

Angela J. Yu
Assistant Professor