

1135-91-797

Timmy Ma* (timmym@math.uci.edu), Department of Mathematics, University of California, Irvine, Irvine, CA 92697, and **Natalia L Komarova** (komarova@uci.edu). *Feature-Label-Order Effect in A Noisy Learning Environment*.

As we begin to understand more about symbolic learning, we are inclined to introduce layers of complexity to represent how our minds are able to process information and communicate to the world. We discuss how learners are able to differentiate and predict a label from objects or features and to predict features from a label. The differences between the two processes is known as the Feature-Label-Order effect. We present a stochastic model to study the Feature-Label-Order effect when noise elements are introduced into a learning environment. We report a novel experiment trial with human subjects and confirm with our model that there is a Feature-Label-Order effect when introducing noise. We demonstrate the key differences between the two different type of learners from our model, showing that Feature-Label learners exhibit a frequency boosting (regularization) property and are better equipped to process noise, whereas Label-Feature learners lack this ability. We discuss the implications of our findings to the nature of language learning and its importance to symbolic learning. (Received September 14, 2017)