

Thesis Proposal
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Title: The sense of the quantitative

Abstract: Quantities are ubiquitous and an important part of our understanding about the world, e.g., cars have engine horsepower, size, mileage, price; countries have GDP, population, area; birds have wingspan, weight, surface area, and so on. Current models of similarity, retrieval and generalization do not take quantities.

This thesis presents a theory of quantity – cognitively plausible representations and principles for generating those representations. The theory is implemented in a computational model, CARVE, that builds symbolic representations of quantity by exposure to examples.