Requirements Development, Elicitation and Analysis

Requirements gathering for jiNx began with domain analysis focused on the facts and constraints present. We assessed the IBM Cloud APIs and GPT Machine Learning Algorithms as our landscape to identify the most essential functions to the system we intended to architect. With this in mind, we established our relevant facts pertained predominantly to sufficient initial data collection to adequately train and test our predictive model. Our constraints stipulated the necessities of providing a minimum of two hundred data points to finetune our machine learning model. Having established this key component of our requirements elicitation, we decided on a goal-based approach for this requirement that would drive our iterative prototyping cycles. This entailed setting a goal, asking pertinent questions, and formulating associated metrics to elucidate our definition of done for each cycle.

In each step of our requirements gathering process, we incorporated an informal validation and verification review in the form of a weekly discussion. We asked if each requirement was complete, consistent, and correct. If we could affirm these three characteristics, we would then verify that the requirement satisfied a quality we wish to imbue in the system. For jiNx, our key concern is accuracy of our predictions. Validating and verifying requirements at each iteration of prototyping allowed for better oversight and remediation of anomalies and was a means of testing accuracy throughout the product development lifecycle. We could observe such attributes with completion of each prototype and subsequent build over the course of the development process. We decided to verify according to IEEE 830 rules with particular attention that our requirements were verifiable, modifiable and traceable at all times.