After reading “Dealing with Uncertainty: A Survey of Theories and Practices” by Li et al., please respond to the following questions.

1. While epistemic uncertainty can be reduced by increasing the amount of relative knowledge about a given problem, aleatory uncertainty cannot. With this in mind, what are some methods for reducing aleatory uncertainty?

2. Select one of the presented theories of handling uncertainty (probability, fuzzy, info-gap, or derived uncertainty) and describe how it could be leveraged in the field of dynamically adaptive systems.

3. Each of the presented theories depends on an engineer’s ability to derive the proper and representative equations, from probability equations to fuzzy logic membership functions. What approaches (if any) can be used to reduce the human aspect of uncertainty from a meta-level (i.e., what if you derived your equations incorrectly)? Specifically, how can we mitigate uncertainty while deriving equations to mitigate uncertainty?