

Title: "Optimal Control Problems with AVaR"

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This capstone project aims to enhance robust optimal control methodologies by using the capabilities of Approximate Dynamic Programming (ADP), an effective approach for solving complex, uncertain control problems like multistage stochastic control processes. The project focuses on optimising the Average Value-at-Risk (AVaR), which measures the likelihood of things going wrong and the severity of potential losses. By harnessing ADP's strengths, we aim to empower control systems with enhanced adaptability and risk management capabilities before uncertainty. It will utilise the strengths of ADP, specifically applying the Bellman Equations, to tackle the challenges in Optimal Control Problems. Python will be the primary programming language, offering versatility and efficiency. Other languages can be implemented along with machine learning frameworks for more complex computational tasks as needed.