Python for Industrial and Systems Engineering

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Abstract: Python continues to grow in popularity, particularly amongst the engineering community. Computing applications for industrial and systems engineering traditionally involves statistics, simulation, optimization, and other types of mathematical models. Commercial software, particularly for statistics, simulation, and optimization, dominated industrial and systems engineering education and practice for many years. However, Python's explosive library growth, ease of learning, vibrant community of users, and open-source availability positions Python as a strong competitor if not superior competitor to many of the previously dominant commercial software solutions. This brief presentation will highlight three applications of Python for industrial and systems engineering: statistical analysis using the scipy.stats; simulation using scipy.stats and simpy; and optimization using PuLP.

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