Using a
Genetic
Algorithm to
Optimize Steel
Structures

Joseph Brown

Plus vs Dev

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Tarleton State University

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- Simulate the physics on a steel structure
- Determine some metric of "fitness" for these structures
- Systematically breed and cull a population based on this metric.

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The Metropolis-Hastings algorithm is used for navigating a probability space. We can use a variation on this to navigate the state space of possible steel structures. We need the following items:

- A way to determine a "neighbor" in the state space.
- A way to compare the goodness of the current state to the neighbor.

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