Surviving a Zombie Attack Using Interval Constraint Solving Techniques.

A Fun Approach to a Serious Problem: Epidemics

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The Walking Dead and **Game of Thrones** are TV shows where zombies play an important role in the plot story. Although they are part of the entertainment culture, zombies propagation and its iteration with the human can be modeled using nonlinear dynamical systems similar to epidemics propagations. Therefore, understanding how the zombies' population propagates can help us to have a clearer vision of how epidemics spread, and then we can develop strategies to minimize their consequences.

In this presentation, we will present a nonlinear dynamic system represented as nonlinear system of equation. We will use Interval Constraint Solving Techniques to find the critical point and then study the conditions that can take us to find a cure or the worst case what are the sceneries where the human population is eradicated.

References

[1] Munz, Philip, et al. *When zombies attack!: mathematical modelling of an outbreak of zombie infection.* Infectious disease modelling research progress 4 (2009): 133-150.