

HOW A PHYSICIST SIMULATES TWITTER

Dr. Isaac Tamblyn



Dr. Isaac Tamblyn is an Assistant Professor in the Department of Physics at the University of Ontario Institute of Technology & holds a joint appointment with the National Research Council of Canada. Before joining UOIT, he completed post docs at Lawrence Berkeley National Laboratory and Lawrence Livermore National Laboratory. He earned his PhD in Physics from Dalhousie University. He has very few followers on Twitter.

In less than a decade, online social networks such as Twitter and Facebook have dramatically changed how communities and individuals share information. Such networks provide the platform for highly intellectual debates such as the colour of the dress (it is clearly white and gold), rapidly spreading information about natural disasters and missing persons, to darker uses such as the ubiquitous monitoring and profiling of online user discussions, enabling online abuse, and spreading the propaganda of repressive regimes. In this presentation, I will discuss how (and why) a Physicist approaches developing a computational model of a social network. Our open source tool, #k@ (hashkat.org)

is a dynamical network simulation engine designed to model the growth of, and information propagation within, an online social network. It incorporates all elements present in such networks including multiple user profiles (e.g. standard users, organizations, celebrities, and bots), user messaging, trending topics, and advertising. Agents within the network make decisions (e.g. follow, unfollow, broadcast, and rebroadcast) based on a variety of user defined factors including geography, political affiliation, musical interests, and humour. This presentation will outline the challenges faced and solutions developed for treating such a system, as well as specific results for the growth of the Twitter network.

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Physics & Computer Science Seminar
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