Supporting Career Options: Beyond Academia Workshop

Happy spring quarter from Santa Barbara! With spring comes graduation, and with graduation comes the job hunt. Our IGERT is proud to again be a major sponsor of UCSB’s Beyond Academia Workshop. The two-day event, which was held March 4 and 5, aims to inform graduate students and postdoctoral researchers in all disciplines and in all stages of their education of a wide range of post-graduate career options. As the name implies, conference attendees interact with professionals who have established careers outside the professoriate in industry, government, administration, nonprofits, and more. Attendees also have opportunities for professional development with sessions on resume building and successful interviewing skills. Beyond Academia is a student-run operation, and registration costs are kept low due to subsidies from programs like ours.

Political Research at Facebook: Monica Lee Visit

Facebook Data Scientist, Computational Sociologist & Software Engineer Gives Invited Talk

How do data scientists leverage machine learning to develop products and solve problems in the tech industry? On May 12th, Dr. Monica Lee visited the Network Science lab and gave a talk aimed at answering this very question. Dr. Lee received her PhD in Sociology from the University of Chicago. She is currently a Data Scientists, Computational Sociologist, and Software Engineer at Facebook. Her varied — yet complimentary — educational and interdisciplinary background, coupled with her experiences at Facebook in the aftermath of the 2016 U.S. Presidential Election, made for very interesting discussion. She was more than happy to help graduate students figure out how to carve their future careers utilizing the unique training provided by the IGERT program. Dr. Lee touched on various machine learning models that she has built to perform political/elections research at Facebook, including models for predicting political ideology, engagement, and influence, as well as for detecting fake accounts. Other areas of focus of Dr. Lee's work include leveraging very big data to research political behavior, cultural tastes/beliefs, and social networks. Her work on cultural modeling has been published in journals like PLOS One, Poetics, Sociological Theory, and The American Journal of Cultural Sociology. Her talk also drew interest from others across campus interested in transitioning from a PhD or academic position to industry research, academic-industry collaboration, and other (non-politics) research areas.
DESIGNING AN INTERDISCIPLINARY EDUCATION: TRAINING MODULES AT A GLANCE

Works in Progress: Spring Quarter Modules

Our selection of modules has continued to grow, as students have applied their interests and creativity to the design of several brand new projects. Indeed, from our initial selection of 8 pre-designed modules, students can now choose from over 30 modules or decide to design one of their own. Here we’ll overview three of the modules in progress this quarter:

Development of a Reader Network

Why do we read what we read? Why does one person devour mystery novel after mystery novel while another prefers classics? Under the supervision of Drs. John O’Donovan and John Mohr, IGERT trainees Taom Sakal and Rachel Redberg investigate reader networks. Analyzing data from Goodreads users, Sakal and Redberg identify the patterns that shape what books people read—and find that the traditional idea of genre does not describe readers so well. Neither do “story structure” or “tone” define readers. In fact, the book groups that illustrate readers are messy, living things that do not fit in a single framework. Current work on this module expands the researchers’ analysis to a larger data set and will involve the submission of a conference paper describing how fame, literary prize winners, and certain journalists shape the book groups readers draw upon. (Image credit: pinterest.com)

The Value of Information in Zero Sum Games

While that we know the outcome of a zero sum game is either win or lose, we don’t know how changes in information alter the dynamics of a zero sum game. Under the direction of IGERT faculty member Jason Marden, trainee David Grimsman is in his second quarter of investigating that puzzle. Joined in Spring 2017 by trainee Rachel Redberg, these researchers are examining how information—either about the state of the game or about the strategy of other players—alters the dynamics of a zero sum game. The goal is to precisely describe the effects from such changes in terms of how each player's strategy evolves and what happens to the game's equilibria. With the heightened stakes and clear delineation between winning and losing, their findings will illuminate pressure decision making in the zero sum equation. (Image credit: steadyoptions.com)

Modeling Structural Balance in Networks

This module aims to model the formation of structural balance in networks. This quarter, IGERT trainee Pedro Cisneros, alongside associate Wenjun Mei and under the supervision of faculty member Francesco Bullo, tackle this new module. They explore a dynamic system that models the evolution of a network of agents that converge to a final state with structural balance. Drawing upon their skills in the IGERT research areas of Algorithms, Models, and Mining as well as Dynamics and Control, these researchers are also producing a theoretical analysis of this model: fixed point analysis, convergence, structural analysis of the final network, and more; in addition to producing some numerical simulations. (Image: structural balance in network relationship between characters in the TV show The Wire. Image credit: medium.com)