Tips for Making the Most of the Applied Data Science Networking Night

- This event happens just once each year and brings a multitude of professionals and faculty together just to meet YOU - freshmen through seniors from ANY major or discipline wanting to explore entry points to data/research/analysis-related jobs and internships - let our guests help you gain a better vantage point into finding the right “fit” for your skills and interests. You don’t need a background in Data Science or Analytics to find opportunities that can be obtained by taking forward steps!

- This is NOT a career fair, so guests won’t be standing behind tables - they’ll first host a panel with Q&A and then they’ll be mingling with you and your peers. No need to bring a resume, either. This “mixer” format is a lot of fun and makes meeting people less intimidating and more enjoyable for everyone!

- Use this Event Guide before arriving and throughout the evening. Taking time now to identify people you’d like to talk to and questions you might have will help you to feel more at ease before you begin mingling. The information on the next few pages will provide you with some background information of the attending professionals as well as a basic breakdown of key career and academic avenues in data science.

- Networking is nothing more than conversation between people getting to know one another. Your strategy? Simple. Take an active interest in your conversation partner! Smile, offer a firm handshake, and lead off by sharing your name and a few bits of information you think your listener might like to know about you (i.e. year in school, academic background, and potential career interests - keep it brief). Follow by indicating something about their background that interests you, and you’re off and running!

- Still feeling nervous? Try watching others to see how they approach conversation. Don’t stand in single file... it’s quite okay to approach people already talking. Just form a semi-circle around the guest and you’ll benefit from hearing other students’ questions. This can feel awkward, so here are the steps: walk up at a polite distance, make eye contact with those talking, then listen and await a verbal OR nonverbal cue to join in. When someone makes eye contact, that’s your opportunity to politely break in and introduce yourself. Be sure to return the favor when others want to join in with you!

- Not sure what to talk about? Here are some sample questions you might ask a guest: What were you studying as an undergraduate? How did you get interested in this subject matter and specific role? What traits and skills are necessary to do well? What training or advanced degrees did you find necessary? What does your average day or week look like? What aspects of your job do you find most rewarding - or challenging? What are the best ways I can gain experience?

- Don’t spend all of your time talking to one person. Stretch your comfort zone and aim to meet multiple professionals. Keep conversations brief - a polite thank you (or a wave and smile if they are talking with others) is a good way to exit.

- Before leaving a conversation, it’s customary to ask a guest for a business card. This step is very important, because it allows you to reach out after the event - perhaps to request a one-on-one conversation in a less-crowded setting at a slower pace. TIP: It’s good etiquette to send a ‘thank you’ after this event, highlighting something memorable about your conversation. Building relationships is NOT a “one and done” - they take follow up and initiative to work.
Academic & Career Avenues
Areas of Interest & Examples in Data Science

What is Data Science?

Data is all around us, and it affects our everyday lives in ways we often take for granted. Google and Facebook analyze the content of our e-mails, searches, and posts, and then they use that data to target ads relevant to our interests. Amazon and Netflix track our online behavior, compare it to the behavior of other users, and recommend products and movies that suit our tastes - often with uncanny accuracy.

In an increasingly data-driven world, data influences all aspects of society - from our careers to our roles as citizens to our private lives. To thrive in this environment, you must be able to work with data, draw well-reasoned inferences from it, and effectively communicate your discoveries to broader audiences.

Industries & Career Paths

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<th>Industry</th>
<th>Description &amp; Potential Careers</th>
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| **Academia** | - Literature scholars borrow techniques from natural language processing, sentiment analysis, signal processing, and machine learning to extract and compare the plot structures of novels and track how archetypes evolve from the 19th to the 20th century.  
- Historians are combining Geographic Information Systems (GIS) data with traditional historic sources to examine the growth of railroads and their impact on the American West.  
- Musicians, linguists, and cognitive scientists use computational modeling to understand how infants learn to distinguish words from all of the other sounds in their environment.  
- Stanford’s City Nature project looks at why natural areas are unevenly distributed in urban environments using spatial analysis and text mining of planning documents.  
- Economists are mapping variations in medical diagnoses and treatments for people in different parts of the country using data from programs such as Medicare and Medicaid.  
- With a host of emerging areas of study like connectomics, genomics, regulomics, and metabolomics, neuroscience is generating huge data sets that require not only knowing how to collect the data, but also how to sort through it all and analyze it.  
- Psychologists are learning to harness the data from smart phones and wearable sensors to collect information on users, such as physical activity, social interactions, and travel patterns. And because this information is collected invisibly and automatically (unlike traditional surveys, which are susceptible to self-reporting errors), they are collecting more accurate data.  
- Computational sociology uses computer simulations, artificial intelligence, statistical methods, and social network analysis to model and analyze human social behavior in organizations, cities, and social networks and to understand how this behavior effects society at large. |
| **Business** | - Morgan Stanley and other companies use big data to inform investments and make economic forecasts.  
- Most equity trading employs data algorithms that interpret signals from a variety of sources to gauge risk.  
- Businesses and entrepreneurs use government Census Data to identify new markets.  
- Marketing firms utilize customer surveys, analyze correlations between advertising outlays and increased revenues to make decisions, and engage in random sampling techniques to estimate market sizes.  
- Union Pacific Railroad uses thermometers, microphones, and ultrasounds to collect performance data on engines and identify equipment at risk for failure before repair costs are prohibitively expensive.  
- Ford’s hybrid cars generate and store about 25 GB of data per hour, which enables Ford to better understand driving behavior, reduce accidents, understand wear and tear, and to reduce maintenance costs. |
## Industries & Career Paths (Continued)

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| **Government** | - The Department of Education’s National Center for Education Statistics collects data on enrollment rates, test scores, graduation rates, student financial aid, and students and teachers to identify areas in need of the more support, funding, and attention.  
- NASA’s Center for Climate Simulation is home to 32 petabytes of climate data. This is used to track climate change, improve weather predictions, and increase awareness of severe weather.  
- Law enforcement agencies collect and analyze data on past crime (locations, frequency, level of violence, etc.), weather, big events, and gang influence to predict where crime activity will be more likely to occur and where to send more patrols to prevent crime. |
| **Health** | - Doctors rely on statistics to gauge the effectiveness of drugs and calculate life expectancy and chances of recovery.  
- Epidemiologists conduct statistical analyses on the spread and risk of diseases.  
- The Centers for Disease Control partnered with Google in 2008 after researchers found that spikes in Google searches for flu symptoms coincided with actual outbreaks. This partnership led to the launch of Google Flu Trends, a site that allows people to compare volumes of flu-related search activity against reported incidence rates on a map of their area.  
- Hospitals analyze patient records to predict which patients are likely to seek re-admission within a few months of discharge. Identifying these patients allows doctors to provide better long-term care, decreasing both hospital and patient costs due to re-admission.  
- Medical records are also used to identify side effects of prescription drugs and to calculate life expectancy or the probability of recovery after diagnosis of terminal diseases or severe accidents. |
| **Law** | - Litigation and legal studies are increasingly relying on data and statistics—decisions about discrimination claims, products liability, trademark dilution, forensic identification, anti-trust litigation, economic damages, even jury selection are often determined by data. |
| **Politics** | - Campaigns collect data on each voter—they know your party affiliation, how frequently you vote, whether you’ve made political contributions, and how often you volunteer, among other factors. They also know what TV channels you watch, what magazines you read, and what activities you engage in, so they know which voters to target, what issues are important to them, and where to place advertisements. |
Eugene Agichtein

**Department of Mathematics & Computer Science, Emory University**

Eugene Agichtein is an Associate Professor in the Math and Computer Science department at Emory University, and is on the core faculty of the Emory Biomedical Informatics program. Dr. Agichtein founded and leads the Emory Intelligent Information Access Laboratory (IR Lab). Eugene's general research interests are in web search and information retrieval, text and data mining, and human-computer interaction, with a key focus on medical informatics and social media applications. Eugene received a Ph.D. in Computer Science from Columbia University, and a B.S. in Engineering from The Cooper Union. Eugene is a Sloan Research Fellow, a member of the DARPA Computer Science Study Group, and a recipient of four best paper awards, most recently at the SIGIR 2011 and WSDM 2014 conferences. His work has been supported by grants from DARPA, the National Institutes of Health, and the National Science Foundation, and by gifts from Cisco, Google, HP Labs, Microsoft, Motorola, the Sloan Foundation, and Yahoo! Labs.

Cliff Carrubba

**Department of Political Science, The Institute for Quantitative Theory and Methods**

Cliff Carrubba specializes in legislative and judicial politics, institutions, European politics, and game theory. Current research projects include the strategic use of legislative voting procedures, the European Commission and enforcement of European Union law, and collegial court bargaining.

Howard Chang

**Department of Biostatistics and Bioinformatics, Emory University**

Howard Chang is an assistant professor in the Department of Biostatistics and Bioinformatics at Emory University. His current research interests include spatial epidemiology, environmental statistics, Bayesian methods, and the development and application of statistical methods for analyzing complex spatial-temporal environmental exposure and health data. He received his PhD in Biostatistics from Johns Hopkins University. Before joining Emory, he was a SAMSI postdoctoral fellow and spent time at the Department of Statistics at NC State and the Children’s Environmental Health Initiative.

Chris Curran

**Department of Economics, Emory University**

Research in law and economics. BA from Rice in 1967; Ph.D. in economics from Purdue in 1972. Chris teaches Mathematical economics with a professor from the Math Department and the economics advisor for the joint Economics and Math major.

Nathan Danneman

**Data Scientist, L-3 Data Tactics**

I’m a quantitative social scientist who loves answering hard questions from data in applied settings. I received my PhD in political science from Emory University in 2013, where I studied conflict bargaining behavior and quantitative methods. Since then, I’ve been working as a data scientist for Data Tactics, helping clients find anomalies in geospatial and cyber data, predict connections between people, and measure sentiment without dictionaries.
Danielle Jung  
*Department of Political Science, Emory University*

I am an Assistant Professor of Political Science at Emory University. Prior to Emory, I was a Postdoctoral Research Associate on the Empirical Studies of Conflict Project at Princeton University. I received my PhD in Political Science at the University of California, San Diego. I use agent based models to study how social organizations promote cooperation and enhance welfare, specifically within rebel groups, amongst states, and voters. I also use field experiments and conduct impact evaluations to study social and political mobilization in emerging democracies.

Sabino Kornrich  
*Department of Sociology, Emory University*

Sabino Kornrich received his Ph.D. in sociology from the University of Washington. His research examines changes in private household spending, and asks how increasing income inequality in the United States in the 1980s and 1990s influenced spending. In particular, this research examines whether increasing income inequality drives up spending among the middle class on luxury goods, housing, or lifestyle goods through processes of bidding or emulation. In addition to research on consumption, he is interested in gender, the family, race, and inequality. He has published several articles on black-white labor market inequality in the American Journal of Sociology and Work and Occupations. He is also currently working on other research on the pathways to and consequences of egalitarianism in marriage.

Nicole Miller  
*Manager - Quantitative Economics and Statistics, Ernst & Young*

Ms. Miller has experience in statistical sampling for estimating tax purposes. While she mainly manages sampling studies for meals and entertainment engagements, she has had numerous experiences in estimating research and development qualifying expenditures as well as repairs and maintenance costs. Ms. Miller also has experience in the healthcare industry from reviewing the statistical validity of in-house client sampling processes to writing guidelines for ensuring statistically de-identified personal health information for third party use. She also has worked on numerous projects with various government agencies. Ms. Miller has quantitative modeling and analysis experience focusing on the finance service industry. She has assisted major mortgage lenders by developing statistical models to evaluate underwriting, pricing, and broker compensation for fair-lending assessment purposes. Ms. Miller has also assisted in litigation support analysis for major lending institutions. Ms. Miller has web survey design and programming experience in areas relating to technology-industry needs, entrepreneurship, human resources, and tax risk. She has assisted in the development of benchmarking reports where companies have the opportunity to compare themselves to their industry peers. Ms. Miller has carried out statistical and graphical analysis of the data collected from the surveys she has developed.

Astrid Prinz  
*Department of Biology, Emory University*

The Prinz lab studies pattern generation and homeostatic regulation in small neural networks, in particular the pyloric central pattern-generator in the stomatogastric ganglion of the lobster and common crab. Current research projects include the computational exploration of homeostatic regulatory mechanisms in neural circuits, the construction, visualization and analysis of high-dimensional model datasets, and the investigation of synchronization in networks of neural oscillators with hybrid network techniques.
Dana Rickman
*Policy and Research Director, GA Partnership for Excellence in Education*

Joined the Partnership in July 2011 after serving as the Director of Research and Policy at the Annie E. Casey Foundation - Atlanta Civic Site. She has also worked for more than 10 years at Georgia State University conducting research on education programs within Georgia. She holds a PhD from Georgia State University in Political Science and a BA from Mary Washington College. She has authored multiple articles in peer reviewed journals and book chapters related to education policy.

Phil Wolff
*Department of Psychology, Department of Linguistics, Emory University*

Phillip Wolff received his PhD from Northwestern University. His research concerns the representation of relational concepts, computational models of causal meaning and reasoning, and cross-linguistic approaches to the study of word meaning. He is the Director of the Mind & Language lab, which investigates the nature of human conceptual representation and processing. The lab uses big data techniques to inves-
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