Data Science +: Quantitative Sciences
Networking Night

EVENT GUIDE

Thursday, Oct. 20, 2016
7-8:30pm, Winship Ballroom
Emory University

Sponsored By:
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 have an overview by Cliff Carrubba, followed by a few speaker intros, and then mingling that includes Q&A. 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!
- I’ve introduced myself. What next? Listening is one of the best ways to engage. Questions might relate the to the person, or their organization. Try one of the following: What attracted you to work for this company/organization? How would you describe the people and culture? What does an average day look like at work? Tell me about one of your favorite projects. What do you find most challenging/rewarding about this work? What opportunities exist for someone with my interests and strengths?
- **Here are some additional 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 are the best ways I can gain experience?
- 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!
- 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 affects 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. |
Professional Bios
Academic and Industry Professionals

Angela Bullock-Gabel
*Attorney, Crotzer & Ormsby, LLC*
Angela Bullock Gabel is an attorney in private practice in St. Louis, Missouri. Her practice is focused on election and education law. Ms. Gabel advises governmental entities on issues involving state and federal election laws. In addition, she has litigated multiple election claims including election challenges, changes to the ballot, election recounts and the Federal Voting Rights Act. Ms. Gabel advises and represents multiple school district clients in all matters of daily governance, board governance and litigation. She has successfully defended school districts in personnel, racial discrimination and various other tort claims.

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*
Dr. Chang is an Assistant Professor in the Department of Biostatistics and Bioinformatics at the Rollins School of Public Health. He conducts research in the development of new statistical methods for analyzing complex environmental and health data. Current applications include air pollution, climate change, infectious disease, and epidemiology. He teaches courses in Bayesian methods and spatial statistics. He also collaborates with researchers on projects funded by the National Institutes of Health, the National Aeronautics and Space Administration, the Environmental Protection Agency, and the Centers for Disease Control and Prevention to address pressing challenges in the environment and public health.

Jaya Gutta
*Senior Manager in Fraud Investigation Dispute Services, Ernst & Young, LLP*
Jaya has 18 years of experience in architecting, designing, developing, implementing and supporting enterprise level applications, commercial products, and business line solutions using multiple technologies.

Jaya has extensive experience in building and leading dynamic teams to implement big data, data science, and cognitive computing to Fraud Investigation, e-Discovery and Cyber Security service lines for our clients in various industries.
Sohel Khan  
*Manager in Fraud Investigation & Dispute Services, Ernst & Young, LLP*

Dr. Sohel Khan is a Manager in the Fraud Investigation and Dispute Services (FIDS) practice. He is a leader in advanced analytics and technology with over 16 years of experience in artificial intelligence (machine learning and deep learning), statistical modeling, business intelligence, accounting and financial analysis, game theory, marketing, Internet protocols, and IoT. He has multiple US patents and publications. Dr. Khan holds an MBA from Kellogg School of Management, a Ph.D. in Electrical Engineering from the University of Kansas, and PMP certificate from PMI.

Mark Kuehnert  
*Executive Director in Fraud Investigations & Dispute Services, Ernst & Young, LLP*

Mark is an Executive Director in the EY Fraud Investigations and Dispute Services (FIDS) practice in Atlanta. He has extensive experience in accounting and financial statement related matters, complex commercial dispute resolution support. He advises clients on accounting malpractice, damages analysis and fraud and forensic investigations, including matters before the SEC. He is a key contributor to building EY’s local fraud investigation and forensic technology capabilities, including Atlanta’s new cyber forensics lab. Mark is a CPA who received a B.A in English at Vanderbilt University and his M.B.A in Finance and Accounting at Owen Graduate School of Management. He is certified in financial forensics (CFF).

Zhongjian Lin  
*Department of Economics, Emory University*

Dr. Zhongjian Lin received his Ph.D. in economics from Texas A&M University. He began working as an Assistant Professor of Economics at Emory University in 2014. His research interests include econometrics.

Andy Markus  
*Vice President, Consumer Analytics & Data Management, Turner Broadcasting Systems, Inc.*

Andy Markus is an accomplished Database Marketing/Statistics professional with 28+ years experience in providing creative analytical solutions to real-world data issues. His expertise involves managing and mining large consumer databases and leveraging predictive analytics to target business critical audiences across all advertising and direct-to-consumer marketing channels. Markus is VP, Consumer Analytics and Data Management at Turner. He manages the Turner Data Cloud efforts relating to architecture/development, consumer identity management, email campaign management, data governance/privacy and consumer-based statistical/data science analytical activities. Markus graduated from The University of Alabama with both a MS/BS in Statistics with a minor in Computer Science.
Viki Powers
Department of Mathematics and Computer Science, Emory University
Vicki Powers is Professor of Mathematics in the Math and Computer Science department at Emory University. She received her BA from the University of Chicago and PhD from Cornell University. Her current research interests include real algebraic geometry, positive polynomials and sums of squares, and the mathematics of social choice.

Paul Lisborg
Manager of Business Intelligence & Analytics, Oldcastle Architectural
Paul has been with the Oldcastle organization since 2013 and has been developing dashboards with Tableau since 2008. He is a founding member of the Atlanta Tableau Users Group (ATUG) and assists with managing and leading the group. Paul currently resides in Newnan, GA with his wife, Jennifer, and children Emma and Nathan.

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
Director of Policy and Research, Georgia Partnership for Excellence in Education
Dr. Rickman is the Director of Policy at the Georgia Partnership for Excellence in Education. She was previously 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. She has authored multiple articles in peer reviewed journals and book chapters related to education policy and is the primary author of the Georgia Partnership’s annual Top Ten Issues to Watch report.

Miguel Rueda
Department of Political Science, Emory University
Dr. Rueda is an Assistant Professor in the Department of Political Science at Emory University. Prior to joining the Emory faculty, I was a visiting research scholar at the Center for the Study of Democratic Politics of Princeton University. I received my PhD in Political Science from the University of Rochester in 2014. I also hold an M.A. in Economics and a B.A. in Economics and Mathematics from La Universidad de los Andes in Bogotá, Colombia. My research interests include electoral manipulation, civil conflict, electoral systems, and political methodology.
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 investigate the large-scale structure of the mental lexicon in English and other languages, causal reasoning, lexical semantics, and representations of the future.

Montakan (Ploy) Thajchayapong  
*Senior in Fraud Investigation and Dispute Services, Ernst & Young, LLP*  
Montakan is a Senior in the Fraud Investigation and Dispute Services (FIDS) practice. She has over 5 years experience combined in machine learning, statistical model and data analytics and visualization. She also has experience working across organization, including project manager, product owner and alternative channel members to identify their needs and communicate findings, insights, recommendation and solutions. Montakan is familiar with various computational programming software used in Big Data technology as well as its business applications. Montakan holds a Ph.D. in Mechanical Engineering from Northwestern University and a M.S. in Analytics from Georgia Institute of Technology.

Jodi-Ann Wray  
*Senior Quantitative Risk Management Analyst, Federal Home Loan Bank of Atlanta*  
Jodi-Ann works in enterprise risk management focusing on regulatory stress testing, risk analytics, model development and enhancements, and credit risk management. Possessing strong quantitative and qualitative skills honed from her undergraduate, graduate, and professional work experience, she uses her skill set to problem solve and establish solutions, analyze and quantify key risk issues, and successfully communicate her findings in both written and verbal form.
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