

# BENJAMIN LEINWAND

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## EDUCATION

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**University of North Carolina**, Chapel Hill, NC *August 2017 - Present*  
*Ph.D. in Statistics*  
Advisors: Vladas Pipiras, Guorong Wu

**Various CUNY Colleges**, New York, NY *June - December 2016*  
*Non-Degree Student*

**Cornell University**, Ithaca, NY *August 2009 - June 2013*  
*Master's (MPS) in Applied Statistics*  
*Bachelor of Arts, Double Major in Statistical Science and Economics*

## RESEARCH INTERESTS

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Networks Evolving Over Time, Dense Weighted Networks, Machine Learning  
Applications to: Neuroscience, Urban Data, Economics/Finance, Sports, Politics

## PAPERS

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5. "Block dense weighted networks with augmented degree correction," with V. Pipiras. Submitted (2021+)
4. "Detecting functional connectivity changes in fMRI data," with C. Baek, M. Gampe, J. Hopfinger, K. Gates and V. Pipiras. Submitted (2021+)
3. "Winning an election, not a popularity contest," with P. Ge, V. Kulkarni, R. Smith. Accepted for Publication (2021)
2. "Two sample tests for high-dimensional autocovariances," with C. Baek, K. Gates and V. Pipiras. *Computational Statistics & Data Analysis* (2020): 107067
1. "Characterizing Frequency-Selective Network Vulnerability For Alzheimers Disease By Identifying Critical Harmonic Patterns" (with V. Pipiras and G. Wu) *IEEE International Symposium on Biomedical Imaging* April 2020

## TALKS AND PRESENTATIONS

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- Networks 2021 Conference (forthcoming) *July 2021*  
*Seeing the forest and the trees: Integrating interdisciplinary network domain theories*
- The Statistical and Applied Mathematical Sciences Institute (SAMSI) Seminar *March 2021*  
*Dense weighted networks featuring communities with augmented degree correction*
- The Statistical and Applied Mathematical Sciences Institute (SAMSI) Seminar *February 2021*  
*Networks of Networks Working Group Overview*
- UNC STOR Graduate Seminar *November 2020*  
*Community Sociability Modeling of Dense Weighted Networks*

## WORK EXPERIENCE

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**Oliver Wyman**, New York NY and several other locations

*October 2013 - June 2016*

*Senior Consultant*

Worked on 11 projects in a wide variety of industries and capacities, with a consistent emphasis on advanced quantitative analysis and clear communication of complex concepts

Selected Project Experience

- **Canada Mortgage and Housing Corporation** — Securitization economic capital model
  - Built a Monte Carlo model in Matlab projecting losses in various macroeconomic scenarios
  - Included several potential exposure types, enabling a unified organizational view of risk
- **PNC** — Stress testing loss forecasting model for home equity portfolio
  - Designed hazard models of risk in SAS based on borrower traits and macroeconomic conditions
  - Integrated prepayment, default, exposure at default and loss given default models
- **Spirit AeroSystems** — Pricing strategy
  - Optimized part pricing using maximum-likelihood estimation to calculate price elasticities
  - Tailored pricing strategy to account for competitor prices and market volume
- **The Clearing House** — “Do Bond Spreads Show Evidence of Too Big to Fail Effects?”
  - Contributed to a white paper by calculating Mertons distance to default, a measure of default risk
  - Sourced and manipulated data, and solved nonlinear equations in R
- **Webster Bank** — Performance management
  - Implemented a new incentive system that aligns bonuses with value produced for the bank
  - Piloted regions saw 24% increase in sales/FTE on a YOY basis compared to 4% elsewhere

**First Manhattan Consulting Group** New York, NY

*June - August 2012*

*Summer Analyst*

- Wrote C# program to parse mailing addresses, reducing process time by 80% and improving accuracy
- Measured effectiveness of ad campaigns by identifying mail recipients who subsequently opened accounts
- Changed certain metrics reported to clients to enhance the clarity and consistency of results

**Cornell Venture Capital** Ithaca, NY

*February 2011 - May 2012*

*Project Manager & Marketing Officer*

Led teams that completed projects for:

- Clearstone Venture Partners exploring the evolving media landscape
- Fynanz - a DFJ Gotham portfolio company focused on private student loans
- Cayuga Venture Fund researching medical device manufacturers

**The Nielsen Company The Modeling Group** Wilton, CT

*June - August 2011*

*Intern*

- Conducted quantitative analysis for pilot project incorporating internet buzz into Marketing Mix Models
- Created PowerPoint presentations displaying the results and findings from MMMs
- Generated and formatted advertising and sales data files for use in modeling

**Basic Souvenir** Brooklyn, NY

*August 2008*

*Assistant Manager at Sweatshirt Manufacturing Company*

- Helped grow business from empty space to fully operational, printing ~200 sweatshirts per day
- Organized business site by configuring inventory, machinery, and production areas
- Trained new employee in printing and packaging protocols

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**TEACHING**

|                                                                                           |                               |
|-------------------------------------------------------------------------------------------|-------------------------------|
| <b>Interdisciplinary Studies 290:</b> Data Science for COVID-19 (Instructional Assistant) | <i>Fall 2020</i>              |
| <b>STOR 155:</b> Data Models and Inference (Instructor)                                   | <i>Spring 2020</i>            |
| <b>STOR 455:</b> Methods of Data Analysis (Instructional Assistant)                       | <i>Fall 2018</i>              |
| <b>STOR 155:</b> Data Models and Inference (Instructional Assistant)                      | <i>Fall 2017- Spring 2018</i> |

## SERVICE

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|---------------------------------------------------------------|------------------------------|
| <b>UNC Department of Statistics &amp; Operations Research</b> | <i>August 2019 - Present</i> |
|---------------------------------------------------------------|------------------------------|

*Graduate Student Liaison*

- Established and edited student run website with information for current and prospective students
- Conducted survey of STOR graduate students for ways to update the graduate programs
  - Led to department reorganizing program structure and first year courses
- Organized first STOR Faculty Roundtable and wrote all questions for faculty
- Organized and moderated first STOR Graduate Student Roundtable
- Spoke to students, faculty, and alumni about improving the graduate student experience
  - Compiled instructor feedback resulting in a new graduate level course in Effective Pedagogy
  - Persuaded faculty to allow a rotating student to speak before each faculty meeting
  - Started monthly “tea time” event allowing students and faculty to mingle in an informal setting
- Elected as senator for STOR Department in the Graduate and Professional Student Federation
  - Hosted a town hall to inform students about resources available to them
- Founding president of BIOSTOR, an organization created to facilitate camaraderie between the STOR Department and the Biostatistics Department including joint student seminars, hikes, and happy hours

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|--------------------------------------------------------------------|--------------------|
| <b>The Statistical and Applied Mathematical Sciences Institute</b> | <i>Spring 2021</i> |
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*Graduate Research Assistant for Program on Data Science in the Social and Behavioral Sciences*

Working group researching networks of networks

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| <b>Consortium for Mathematics and Its Applications</b> | <i>February - March 2021</i> |
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*Triage Judge for Interdisciplinary Contest in Modeling*

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|---------------------------------------------------------------|------------------------------------------------------|
| <b>UNC Department of Statistics &amp; Operations Research</b> | <i>January - March 2019, January - February 2020</i> |
|---------------------------------------------------------------|------------------------------------------------------|

*Visit Day Coordinator*

- Managed logistics for finding visitors lodging and transportation
- Assisted in planning visit day activities
- Advised accepted students about visiting UNC and choosing a graduate program

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| <b>Reach the World</b> | <i>February - May 2014</i> |
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*Volunteer Editor*

- Edited content written for middle school students by a college student describing her experience studying abroad in Ifrane, Morocco

## AWARDS

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- **Service and Mentorship Award** for contributions which significantly enhance the graduate program and the experiences of graduate students in the STOR Department *November 2020*
  - **ISBI Travel Grant** from the US National Institutes of Health, National Institute of Biomedical Imaging and Bioengineering, and National Cancer Institute *April 2020*
  - **Community Prize** for naming a non-profit focusing on gender equity in architecture *October 2013*
  - **Best Thesis Project** in Master’s Program for analyzing performance on e-learning tasks *May 2013*
  - **Graduated Magna Cum Laude** in Statistical Science *January 2013*
  - **Graduated with Distinction in all Subjects** *January 2013*
  - **Omicron Delta Epsilon**, International Honors Society in Economics *March 2012*

## SKILLS

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**Expert:** R, Excel

**Proficient:**  $\text{\LaTeX}$ , MATLAB

**Past experience with:** Python, SAS, SQL, C#, VBA