BENJAMIN LEINWAND

Office: B-46 Hanes Hall
Chapel Hill, NC 27514
Phone: (718) 306-2623
E-mail: bml67@live.unc.edu
Web: https://bleinwand.github.io

EDUCATION

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

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

PAPERS AND PREPRINTS

IN PREPARATION

"Block dense weighted networks with augmented degree correction," with V. Pipiras.

SUBMITTED/PUBLISHED

"Detecting functional connectivity changes in fMRI data," with C. Baek, M. Gampe, J. Hopfinger, K. Gates and V. Pipiras. Submitted (2021+)

"Winning an election, not a popularity contest," with P. Ge, V. Kulkarni, R. Smith. Accepted for Publication (2021)

"Two sample tests for high-dimensional autocovariances," with C. Baek, K. Gates and V. Pipiras. *Computational Statistics & Data Analysis* (2020): 107067

CONFERENCE PAPERS

"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

- 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

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

TEACHING

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

SERVICE

UNC Department of Statistics & Operations Research *August 2019 - Present*
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

The Statistical and Applied Mathematical Sciences Institute *Spring 2021*
Graduate Research Assistant for Program on Data Science in the Social and Behavioral Sciences
Working group researching networks of networks

Consortium for Mathematics and Its Applications *February - March 2021*
Triage Judge for Interdisciplinary Contest in Modeling

UNC Department of Statistics & Operations Research *January - March 2019, January - February 2020*
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

Reach the World *February - May 2014*
Volunteer Editor
- Edited content written for middle school students by a college student describing her experience studying abroad in Ifrane, Morocco

AWARDS

- **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

Expert: R, Excel
Proficient: LaTeX, MATLAB
Past experience with: Python, SAS, SQL, C#, VBA