Gabrielle Thivierge

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EDUCATION

Carnegie Mellon University Pittsburgh, PA
PhD Candidate, Statistics expected May 2026

- Relevant Courses: Advanced Statistical Theory, Causal Inference, Statistical Methods in Machine Learning, Statistical Computing, Regression Analysis, Principles of Real Analysis
- Research Focus: Methods for performing and evaluating infectious disease forecasting and nowcasting

University of Notre Dame Notre Dame, IN
BS, Applied & Computational Mathematics & Statistics, Neuroscience & Behavior (summa cum laude) Aug 2013 - May 2017

- Minor: Glynn Family Honors Program

SKILLS

- **Programming Languages, Platforms, and Tools**: R (tidyr, dplyr, ggplot2, parallel, rstan), Python (NumPy, Pandas, Scikit-Learn, PyTorch), SQL, VBA, Cognos, SAS, Git
- **Statistical Methods and Techniques**: Exploratory Data Analysis, Data Visualization, Regression, Classification, Clustering, Time Series, Causal Inference, Neural Networks, Deep Learning, Bayesian Inference, MCMC, Biostatistics, Data Manipulation
- **Functional Skills**: Oral and written communication, presentation to varied audiences, technical writing for research, collaboration, problem-solving, conflict resolution, stakeholder management, project management
- **Professional Designations**: CFA charter (CFA Institute)

PROFESSIONAL EXPERIENCE

Bayer Whippany, NJ
Statistical Intern May 2023 – Aug 2023

- Built simulation of upcoming complex clinical trial in R to investigate effect of stratification, imputation methods, and covariate inclusion on the performance of planned statistical analyses
- Made methodology recommendations to reduce absolute and relative bias and achieve desired type I error rate in non-parametric rank ANCOVA and linear regression, while meeting regulatory requirements

Novartis East Hanover, NJ
Analytics Intern, Global Drug Development Jun 2022 – Aug 2022

- Utilized real-world evidence (RWE) database to create synthetic control group for a single-arm clinical trial of a lung cancer treatment
- Applied multiple causal inference methods to estimate treatment effect of the drug vs synthetic control, and created simulations to investigate the performance of such methods in a general small data setting
- Demonstrated the value of incorporating RWE into proof-of-concept decisions and the feasibility of applying causal inference methods in this small sample size setting

Travelers St. Paul, MN
Senior Associate Quantitative Research Analyst, Investments Dept Jul 2019 – Jul 2021

- Performed quantitative analysis of $70B investment portfolio with focus on risk and return attribution, scenario analysis, and process optimization
- Led a team of credit analysts in data-driven cross-sector (chemical manufacturing, construction) opportunity ideation for yield by combining extant yield data with fundamental financial analysis
- Presented to leadership trends in cashflows for structured products and comparison of insurance liabilities to asset cashflows
- Presented to candidate pools at recruiting events, assigned as an interviewer for pipeline candidates in Quantitative Research

Associate Quantitative Research Analyst, Investments Dept July 2017 – Jul 2019

- Generated monthly performance attribution for the municipal bond portfolio
- Designed and modeled portfolio risk given varied scenarios
- Responsible for monthly, quarterly, and ad-hoc strategic and regulatory reporting
- Developed, delivered, and quality assured data integration with transition to Bloomberg portfolio and risk analytics (from MSCI)

ACADEMIC RESEARCH

Novartis PhD Fellow Pittsburgh, PA
Carnegie Mellon University Aug 2024 – Dec 2024

- Synthesized patient-level data from two independent clinical trials of CAR-T therapy for lymphoma that demonstrated different efficacy rates, as part of a CMU-Novartis data science collaboration between academic statisticians, pharmaceutical industry data scientists, and pharmacology experts
- Applied statistical methods and machine learning techniques to explore variable importance in predicting patient outcomes
- Utilized causal inference methods to determine whether the timing of a treatment step relative to prior therapies led to better progression-free survival
- Leveraged GitHub for collaboration, version control, and sharing reproducible code and results

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Delphi Lab Group Pittsburgh, PA
Carnegie Mellon University Jun 2023 – Aug 2023

- Led analysis of the use spatiotemporal influenza-like illness (ILI) data to improve forecasting and prediction of future ILI counts
- Interpreted results showing that incorporating spatial data into disease forecasting can improve predictive performance of several types of autoregressive time series models fit on historical ILI data
- Publication: Gabrielle Thivierge, Aaron Rumack, F. William Townes, Does spatial information improve forecasting of influenza-like illness? Epidemics, Volume 51, 2025, https://doi.org/10.1016/j.epidem.2025.100820.

SELECTED RELEVANT STATISTICAL PROJECTS

Bayesian hierarchical modeling for correcting reporting delay in infectious disease forecasting Jan 2024 – Present

- Utilizing probabilistic programming (STAN, Pyro) to create a hierarchical model of infectious disease case counts and case reporting dynamics
- Aim to improve forecasting of yet-unreported cases in real time and provide better estimation of case ratios in addition to counts
- Will benchmark against existing methods for reporting delay correction to analyze predictive performance

REFERENCES AVAILABLE UPON REQUEST