Michelle VanTieghem
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I have a PhD in Psychology, with expertise in quantitative data analysis, statistics, and bio-behavioral health research. I am passionate about using data science to generate insights that can improve people's well-being.

EXPERIENCE

Post-Doctoral Researcher, NYU Department of Child and Adolescent Psychiatry 03/2020-Present

- Design, implement, and manage data processes for a longitudinal research study examining the impact of the Covid-19 pandemic on maternal mental health.
- Developed data visualization dashboard with key insights using R shiny, allowing us to quickly disseminate research findings with scientific partners, clinicians, and the general public.
- Created an interactive web application to forecast timing and volume of study visits based on current and projected study enrollment, used to drive decisions in study design and project operations.
- Conduct data analysis and generate reports to evaluate existing recruitment methods and make recommendations to attain study enrollment goals.

PhD Student Researcher, Department of Psychology, Columbia University 09/2014-02/2020

- Designed and implemented both descriptive and predictive research studies that assessed the relationships between caregiving adversity and child mental health using neuroimaging and clinical assessments.
- Wrote statistical code in R to model and visualize non-linear changes in brain development, hormones, and mental health outcomes; presented findings at scientific conferences and in first-authored manuscript.
- Contributed to collaborative code base to quantify dimensions of co-occurring childhood caregiving adversities (PCA, FA), and used these dimensions to model mental health outcomes. These findings are presented in a co-authored manuscript currently in progress.
- Developed storage guidelines, QA procedures, and processing pipelines for longitudinal neuroimaging data using high-performance computing to improve reproducibility, which were applied in lab-wide projects.

Teaching / Supervising Experience, Columbia University 09/2014-12/2019

- Supervised student on master's thesis that explored machine learning methods to classify participant's caregiving history (adversity-exposed vs. no exposure) from multi-modal brain imaging data.
- Mentored 6 research assistants on R programming and data analysis projects, all of whom have been admitted to top graduate or medical schools.
- Served as a Teaching Assistant for graduate and undergraduate level courses that included research design, data visualization and statistical analysis in R, and received strong evaluations for teaching effectiveness.
- Developed and delivered workshops on R programming, version control, and reproducible research.

EDUCATION

PhD in Psychology, Columbia University, New York, NY 2020
BA in Neuroscience, Dartmouth College, Hanover NH, *Suma Cum Laude* 2012

ADDITIONAL QUALIFICATIONS

- **Computing:** R, R markdown, shiny, python, Git/Github, high performance computing, shell scripting
- **Statistics:** Regression, ANOVA, linear models, multivariate statistics, multilevel modeling, time series, dimension reduction, factor analysis, classification, machine learning
- **Portfolio and publication list:** https://mvantieghem.github.io