Michelle VanTieghem
Michelle.vantieghem@gmail.com
https://mvantieghem.github.io/ https://www.github.com/mvantieghem

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 maternal mental health using R programming and online survey methodology.
- Develop data visualization dashboard with key insights using R shiny, allowing us to quickly disseminate research findings on Covid-19 pandemic with scientific partners, clinicians, and the general public.
- Create an interactive web application to forecast timing and volume of study visits based on projected study enrollment, used by research team to drive decisions in longitudinal study design and project operations.
- Generate analysis reports to evaluate recruitment methods and make recommendations to attain goal to enroll 2K women from diverse demographics into online survey study.

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

- Designed both explanatory and predictive data analyses to assess the relationships between early adversity and mental health outcomes using neuroimaging and clinical assessments.
- Wrote statistical code in R to model and visualize non-linear changes in brain development and mental health outcomes. Presented findings at scientific conferences and in first-authored manuscript under review.
- Contributed to collaborative code base to quantify dimensions of childhood adversities, which were used as features to predict mental health outcomes. Presented findings in co-authored manuscript in progress.
- Developed storage guidelines, QA procedures, and processing pipelines for neuroimaging data using high-performance computing. Workflows were applied to lab-wide research projects to improve reproducibility and decrease processing time from 500 days to 5 days.

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

- Supervised master's thesis that applied 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, data analysis, and research design, 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 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, *Cognitive neuroscience and quantitative research* Columbia University, 2020
BA in Neuroscience, *Suma Cum Laude, GPA 3.9* Dartmouth College, 2012

SKILLS

- **Computing:** R, R markdown, shiny, python, Git, high performance computing, shell scripting
- **Statistics:** Regression, multivariate statistics, multilevel modeling, dimension reduction, classification, machine learning, survey design and analysis