MICHELLE VANTIEGHEM

Michelle.vantieghem@gmail.com

EXPERIENCE

Post-Doctoral Researcher, NYU Child Study Center   **03/2020-Present**

- **Databases**: Design and manage data processes for research study, merging longitudinal survey and EMR data to examine changes to perinatal healthcare due to Covid-19 pandemic.
- **Dashboard:** Created data dashboard with key insights to quickly disseminate research findings on Covid-19 pandemic with scientific partners, clinicians, and the general public.
- **Operations:** Developed interactive web application to forecast key metrics (cost, volume) of research study operations over a 2-year period to drive decision-making in study design.

PhD Student Researcher, Columbia University   **09/2014-02/2020**

- **Statistical modeling:** Applied non-linear regression to model longitudinal changes in brain development, and presented findings at conferences and in first-authored manuscript.
- **Machine learning:** Contributed to collaborative codebase to identify reproducible dimensions (PCA) of childhood adversities, and applied ML models (random forest) to predict mental health outcomes. Results contributed to co-authored manuscript.
- **Classification:** Supervised master's thesis project, which applied boosted tree models to classify participants (adversity vs. control) from brain imaging features.
- **Workflows:** Developed processing pipelines for 50 GB of neuroimaging data using high-performance computing, decreasing processing time by 10-fold for lab-wide projects.
- **Data management:** Developed storage and QA procedures for databases that combined diverse datatypes, including biomedical imaging (MRI), clinical measures and survey data.

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

- **Technical workshops:** Developed and delivered tutorials on R programming, version control, and reproducible workflows for psychology researchers.
- **Teaching Assistant:** Graduate and undergraduate level courses on data visualization and statistical analysis in R, and received strong evaluations for teaching effectiveness.
- **Project supervision:** Mentored 6 research assistants and thesis students on data analysis projects, all of whom have been admitted to top graduate or medical schools.

EDUCATION

PhD in Psychology, Columbia University   May, 2020
BA in Neuroscience, Dartmouth College   June, 2012

SKILLS

- **Computing:** R, R markdown, python, SQL, Git/github, HPC, unix, shell scripting
- **Statistics:** Linear models, multivariate statistics, time series, hypothesis testing, A/B testing
- **ML:** Regression, dimension reduction, feature engineering, classification, ensemble models
- **Portfolio**: https://mvantieghem.github.io/   **Code:** https://github.com/mvantieghem