

ANIKA PETACH STACCONE

 anika.petach@gmail.com  646 418 0050  github.com/anikap22  linkedin.com/in/anika-staccone

RESUME OBJECTIVE

Data Scientist with 5 years of experience using statistical modeling and machine learning to derive meaning from messy data. Experienced using regression models, mixed effect models, machine learning, predictive data modeling, and data processing to deliver insights on complex problems.

SKILLS

R / Python / Matlab

MySQL / SQLite / Access

UNIX

bash shell

git

Data Management

Remote Sensing: QGIS, ArcGIS, R geostatistics

Collaboration

Problem Solving

Leadership

SELECTED EXPERIENCE

PhD RESEARCHER

Columbia University, New York, NY / September 2016 - Present

- Applied mixed effect models to R to study large, spatially explicit forestry data (>18 million trees) investigating nitrogen cycling in temperate forests
- Used machine learning algorithms such as random forest, K-nearest neighbors, support vector machines, and logistic regressions in R to predict N-fixing tree occurrence
- Implemented a network analysis in python to investigate spatial interactions among trees
- Utilized distributed cluster computing for neighborhood analysis (slurm job management)
- Led a group of undergraduates to complete field work
- Conducted theoretical modeling and simulation including advection-diffusion-reaction modeling
- Wrote successful grant applications (>\$140,000 awarded) to fund research and presented results at national scale conferences

SCIENCE TEACHER

United Nations International School, New York, NY / August 2015 – August 2016

- Implemented International Baccalaureate physics, chemistry, and biology courses
- Worked with colleagues from diverse backgrounds
- Developed a technology based curriculum for high school students including an interdisciplinary sustainability project

SELECTED GRANTS, AWARDS & PUBLICATIONS

NSF GRFP, 2017 (\$138,000)

Columbia University Dean's Fellowship, 2016 (\$158,600)

Earth Institute Assistant Grant, 2018 (\$1800)

Petach, A et al. "Monitoring vegetation phenology using an infrared-enabled security camera". *Agricultural and Forest Meteorology*. (2014) pp. 143-151.

Staccone, A et al. "A spatially explicit, empirical estimate of tree-based biological nitrogen fixation in forests of the United States". *Global Biogeochemical Cycles*. (2020), 34(2), pp 1-18.

Staccone, A et al. "Nitrogen-fixing trees have no net effect on forest growth in the coterminous United States". *Journal of Ecology* (2020).

EDUCATION

Ph.D. ECOLOGY

Columbia University,
New York, NY / 2021

A.B. ENVIRONMENTAL ENGINEERING

Harvard University,
Cambridge, MA / 2013