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## Education

- Present **Ph.D. Candidate**, *Department of Earth and Environmental Engineering*, Columbia University.
- NSF Graduate Research Fellow
  - Columbia University Presidential Fellow
  - Advisor: Upmanu Lall
- 2016 **M.S.**, *Department of Earth and Environmental Engineering*, Columbia University.
- 2015 **B.S.**, *Mechanical Engineering*, Yale University, New Haven, CT.
- Senior project: “Adapting UVC-LEDs for Portable Water Purification”
  - Graduated *Cum Laude*
  - Distinction in Mechanical Engineering and Materials Science
- 2011 **High School**, Wilbur Cross H.S., New Haven, CT.

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## Experience

- 2015–Present **Graduate Research Fellow**, *Columbia Water Center*, Columbia University Department of Earth and Environmental Engineering, New York, NY.
- 2014–2015 **Undergraduate Research Assistant**, *Department of Chemical and Environmental Engineering*, Yale University, New Haven, CT.
- Evaluated technical and economic viability of UV-C LED technology for portable water treatment
- 2014 **Visiting Student Researcher**, *Water and Climate Risks Lab*, Hydraulic and Environmental Engineering Department, Universidade Federal do Ceará, Fortaleza, Brazil.
- Researched bottom-up drought vulnerability assessment of rural drinking water systems
- 2013 **Mechanical Design Intern**, *DEKA Research and Development*, Manchester, NH.
- Used CAD and 3D printing to evaluate design changes for Slingshot water purification system
- 2012 **Summer Intern**, *Ikatú Agua Project*, Fundación Paraguaya, Asunción, Paraguay.
- Assessed impact of credit for water system improvement in 19 rural communities

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## Professional and Community Engagement

### Teaching

- 2018 **Teaching Assistant**, *Environmental Data Modeling & Analysis*, Columbia University.
- Write and grade problem sets for 40 masters-level students
  - Two lectures: “Introduction to R and RStudio”, and “Introduction to Bayesian Methods”
  - Supervisor: Upmanu Lall

### Mentoring

High School Caroline Schwab

### Professional Service

- 2017–2018 **Organizer**, *Earth and Environmental Engineering Student Research Symposium*, Columbia University, New York, NY.
- 2017–Present **Reviewer**.
- A verified record of reviews available at <https://publons.com/a/1468228/>.*
- Oxford Journal of Development Studies
  - Journal of Hydrology
  - Journal of Applied Meteorology and Climatology

## Community Service and Outreach

- 2016–2017 **Volunteer**, *Youth Career Connect*, New York, NY.
- Mentored New York high school juniors and seniors interested in STEM careers
  - Supervisor: Samantha Joseph
- 2015 **Summer Intern**, *Education Policy Initiative*, New Haven Housing Authority/Elm City Communities, New Haven, CT.
- Developed summer curriculum and researched policy interventions to support literacy and reduce multi-generational poverty
  - Supervisor: Emily Byrne
- 2012–2015 **Founder**, *New Haven REACH*, New Haven, CT.
- Founded and led a program to support New Haven high school seniors applying to college
  - Recruited and trained > 50 volunteer mentors from Yale
- 2011–2015 **President**, *Engineers Without Borders*, Yale Student Chapter.
- Member, 2011-2012, 2015. Design Lead, 2013. President 2014
  - Led student team in design and construction of water supply system for rural community of 1500 in Northwestern Cameroon

## Professional Memberships

- 2018–Present American Society of Civil Engineers
- 2015–Present American Geophysical Union
- 2016–Present American Meteorological Society

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## Skills

### Computer

- Programming advanced: Python, R; proficient: bash, Matlab, C++
- Stats / ML advanced: stan; proficient: PyMC3, Edward, tensorflow, keras
- Communication advanced: Markdown/Pandoc, Rmarkdown,  $\LaTeX$ , jupyter; proficient: jekyll, pelican
- Reproducibility proficient: Docker, git, conda, make

### Language

- English Native speaker
- Spanish Full professional proficiency
- Portuguese Professional working proficiency
- French Elementary proficiency
- Italian Elementary proficiency
- Guaraní Basic

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## Honors & Awards

- 2018 **Nickolas and Liliana Themelis Fellowship**, *Fu Foundation School of Engineering and Applied Science*, Columbia University.
- 2017-2020 **Graduate Research Fellowship**, *Climate and Large-Scale Atmospheric Dynamics*, National Science Foundation.
- Research: “Understanding & Predicting Climate Drivers of Extreme, Mid-latitude River Floods”
- 2015-2019 **Presidential Distinguished Fellowship**, *Fu Foundation School of Engineering and Applied Science*, Columbia University.
- 2015 **Distinction in Major**, *Department of Mechanical Engineering and Materials Science*, Yale University.

- 2015 **B.S. Cum Laude**, Yale University.
- 2014 **Larry Coben '79 Fellowship**, Yale University.
- 2013 **Vance-Carter Travel Award**, Yale University.
- 2012 **Thomas C. Barry Fellowship**, Yale University.

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## Publications and Presentations

### Talks and Workshop Presentations

- 2018-11-08 **Robust Adaptation to Multi-Scale Climate Variability**, *The Nexus of Climate Data, Insurance, and Adaptive Capacity*, Asheville, NC, poster.
- 2017-09-10 **Extreme Rainfall in Paraguay During the 2015-16 Austral Summer**, *North East Graduate Student Water Symposium*, Amherst, MA, talk.
- 2017-05-31 **Regional Intense Precipitation: Inferences From GCM Atmospheric Circulation Fields**, *Modeling Research in the Cloud*, NCAR, Boulder, Colorado, poster.
- 2017-04-21 **Statistical-Dynamical Analysis of Climate Projections for Flood Infrastructure Design**, *Interdisciplinary Ph.D. Workshop in Sustainable Development 2017*, Columbia University, New York, NY, talk.
- 2016-12-07 **Physical Mechanisms and Subseasonal-To-Seasonal Predictability of Persistent Intense Rainfall and Paraguay River Flooding During the Austral Summer 2015/2016**, *Workshop on Subseasonal to Seasonal Predictability of Extreme Weather and Climate*, Columbia University, New York, NY, poster.
- 2016-08-26 **Understanding the Physical Drivers of Extreme Rainfall for Flood Prediction**, *Oxford Water Network*, Oxford University, talk.