Alexander Young

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EDUCATION

Cornell University
PhD Student, Civil and Environmental Engineering, August 2020 – present
Environmental Fluid Mechanics and Hydrology

University of California, Berkeley
Master of Science, Environmental Engineering, May 2019

University at Buffalo – State University of New York
Bachelor of Science, Environmental Engineering, Summa Cum Laude, May 2018

PROFESSIONAL HISTORY

09/19–07/20 | *ML-AI Engineer* | **Ag-Analytics Technology Company LLC.** **Ithaca, NY**

- Developed spatial models for predicting crop yields that incorporate farmer supplied information along with public geographic datasets (e.g., soil data, weather data).
- Optimized satellite imagery API for retrieving data from Landsat-8 and Sentinel-2. Implemented interpolation routines for cloud covered images.
- Continued work on developing models to be used in agriculture sustainability initiatives.

01/19–05/19 | *Intern* | **Green Science Policy Institute** **Berkeley, CA**

- Conducted research in the field and office on fluorinated substances in consumer products.
- Worked independently in a small team environment to tackle public health problems related to toxic chemicals.
- Analyzed laboratory testing data and presented results to external collaborators.

07/18–08/18 | *Operations Lead* | **Nuclear Innovation Bootcamp** **Berkeley, CA**

- Coordinated speakers, participants, and on-site logistics for a two-week nuclear energy conference.
- Assisted with day to day operations to keep the event running smoothly for all those involved.

TEACHING EXPERIENCE

08/21–Present | **Teaching Assistant for Fluid Mechanics** **Cornell University**

- Worked as a student leader for a sophomore year statics class in the Department of Civil Engineering.
- Spent time with students in a one-on-one setting to answer questions and issues that they had with the assigned class work.

08/17–12/17 | **Student Leader for Solid Mechanics** **University at Buffalo**

- ❖ Worked as a student leader for a sophomore year statics class in the Department of Civil Engineering.
- ❖ Spent time with students in a one-on-one setting to answer questions and issues that they had with the assigned class work.

RESEARCH & PROJECTS

08/20–present | **Real-Time Flood Forecasting** **Cornell University**

- ❖ Application of Bayesian statistical methods and machine learning to flood models in order to improve real-time water level predictions.

01/19–05/19 | **Wildfire Smoke Model Validation** **UC Berkeley**

- ❖ Worked on determining the usefulness of low cost air sensor networks for validation of smoke plume models.
- ❖ Compared outputs from the HRRR Smoke model to atmospheric and meteorological observations to determine the accuracy of smoke plume forecasts.

08/17–05/18 | **Disinfection Byproducts from Algae Blooms** **University at Buffalo**

- ❖ Investigated the effects of disinfection byproduct formation from chlorination of algal compounds.
- ❖ Synthesized and visualized data, eventually compiling findings into an extended report on the experiments. Findings were then presented to a group of peers and professors.

HONORS AND AWARDS

- ❖ Joseph H. DeFrees Fellowship | 2021
- ❖ Cornell University Fellowship | 2020-2021

TECHNICAL SKILLS

Software: QGIS, Surfer, SWMM, EPANet
Languages: Python, MATLAB, R

ENGAGEMENT

05/21–Present | **President of Cornell Civil & Environmental Engineering Graduate Student Association**

- ❖ Collaboration with fellow officers to develop social, professional, and community events for graduate students in the Civil and Environmental Engineering department.

09/20–05/21 | **Social Chair for Cornell Civil & Environmental Engineering Graduate Student Association**

- ❖ Planned virtual social events to foster a sense of community within the department during the COVID pandemic.

PUBLICATIONS

1) High-resolution smoke forecasting for the 2018 Camp Fire in California. (2021). High-resolution smoke forecasting for the 2018 Camp Fire in California. *Bulletin of the American Meteorological Society*. https://doi.org/10.1175/bams-d-20-0329.1

PRESENTATIONS

10/28/21 | **Guest Lecture on Smart Stormwater Management.** Smart Cities CEE 4800/6800 at Cornell University.

08/31/21 | **Environmental Fluid Mechanics and Hydrology Research Seminar.** CEE Department, Cornell University.