**Daniel Rothenberg**

Meteorologist | Climate Scientist | Pythonista

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**Summary of Qualifications**

Leader and innovator in the atmospheric sciences, employing novel analytical, modeling, “big data” techniques to tackle cutting-edge research questions in weather and climate with over 10 years of experience collaborating with stakeholders in all sectors of the Weather Enterprise including public, private, and government; frequent communicator of climate change science and policy and weather risk management

**Experience**

**ClimaCell**, *Chief Scientist* 2017-Present

* Oversaw research and development of novel nowcasting algorithms and assimilation products using high-resolution numerical modeling output and proprietary atmospheric observations
* Designed and led a team of meteorologists and data scientists to produce high-performance, cloud-based infrastructure to operationally run nowcasting, assimilation, and forecasting systems
* Leveraged open source technologies (Pangeo stack) to prototype a tera-scale weather/climate data archive and access/analysis tools
* Developed and executed a comprehensive R&D roadmap tightly integrated with company business development strategy and opportunities

**Massachusetts Institute of Technology,** *Postdoctoral Research Associate* 2016-2017

* Conducted inter-disciplinary research projects investigating air quality and climate change using large ensembles of coupled climate/atmospheric chemistry modeling systems (IGSM / CAM-Chem / GEOS-Chem)
* Designed Python-based open source analysis toolkit for Harvard/GEOS-Chem modeling community

**Massachusetts Institute of Technology**, *Ph.D., Atmospheric Science* 2011-2016

* As NSF Graduate Research Fellow, developed and integrated novel emulation tools for parameterizing aerosol-cloud interactions in global models; participated in ice nucleation measurement field campaigns
* Created Python-based “big data” software tools for working with global model inter-comparison archives on distributed and HPC computing systems
* *Awards*: Outstanding Student Presentation Award (AMS); Postdoctoral Fellowship at Geophysical Fluid Dynamics Laboratory (*declined*)

**Google / Ravenbrook Software**, *Contract Developer* 2011

* Ported, modernized, and open sourced a high-performance surface analysis algorithm; presented work at invited seminar at the National Climatic Data Center and the AMS Annual Meeting

**Cornell University**, *B.S*. magna cum laude*, Honors in Research, Atmospheric Science* 2007-2010

* Conducted research on role of volcanoes in the climate system using earth system models
* *Awards*: Charney Prize (MIT); Academic Excellence Award (Cornell/CALS); Father James B. Macelwane Award in Meteorology (AMS; awarded to top undergraduate research paper)

**Technical Skills / Specialization**

**Scientific Research** ([orcid.org/0000-0002-8270-4831](http://orcid.org/0000-0002-8270-4831)): 13 refereed articles (5 first author)

**Data Analysis** ([github.com/darothen](http://www.github.com/darothen)) – Python (expert), Spark/dask/MPI, Matlab, R

**Numerical Modeling** – NumPy/Cython/Numba, Julia, Fortran, C/C++/Cuda, NWP/GCM development | HPC and cloud (GCP / AWS) computing | Open Source Software | Science/Innovation Policy Communications and Outreach

**Service**

American Meteorological Society – Annual Meeting Oversight Committee – Member 2016-Present

[Pangeo-data](mailto:https://pangeo-data.github.io/) – co-Founder 2016

Graduate Climate Conference – co-Chair 2013

American Meteorological Society – Student Conference Planning Committee – co-Chair 2014-2015

Science Policy Initiative – Executive Committee Member 2012-2016