

Matthew Rocklin

CONTACT INFORMATION

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SUMMARY

I build and maintain parallel computing infrastructure for Python. I help maintain the open source ecosystem, and lead Coiled, a tech startup in this space. Most of my work is focused around Dask, a library for scalable computing in Python.

This is part of a broader effort to increase accessibility of numerical methods to science and policy practitioners.

PROFESSIONAL EXPERIENCE

Coiled

Founder, CEO

2020 -

Build a company to provide data science and machine learning at scale. Coiled provides both managed Python deployments based on Dask, as well as partnerships to build out advanced machine learning platforms.

NVIDIA

Systems Software Manager

2018 - 2020

Manage a team of engineers to build Dask+GPU accelerated data science stack. Manage open source community relations.

Anaconda Inc

Computational Scientist

2014 - 2018

Build software and communities to scale Python's data analytics ecosystem

Sandia National Laboratory - Livermore, CA

Postdoctoral Researcher

2013 - 2014

Computation and analysis of large time evolving networks

Berkeley Engineering and Research/4D Imaging - Berkeley, CA

Software Developer

2003 - 2005

Designed and constructed 3d-scanner based on structured light techniques. Founding engineer of a startup engineering company.

EDUCATION

University of Chicago, Chicago, IL

Ph.D, Computer Science

2013

M.S. Computer Science

2011

University of California, Berkeley, Berkeley, CA

B.A., Physics, Mathematics, and Astronomy

May 2007

SOFTWARE

I coordinate and maintain several libraries within Python's numeric computing ecosystem, particularly around efficient and scalable computing.

I am primarily known for my work on [Dask](https://dask.org/), a library for scalable computing with dynamic task scheduling. Dask combines a high-speed task scheduler with parallel algorithms to scale existing Python libraries like Numpy, Pandas, Scikit-Learn, and many others.

More generally though I work with other core developers within the ecosystem to promote the general health and efficiency. I contribute to and maintain dozens of libraries. A more complete record of

my contribution is available on GitHub: github.com/mrocklin.

PUBLICATIONS

Today I mostly publish on technical topics online at matthewrocklin.com/blog. Previously I engaged in traditional academic publishing. This page contains references to those works.

Theses

- M. Rocklin, [Modular Generation of Scientific Software](#), 2013, a PhD dissertation.
- M. Rocklin, [Uncertainty Quantification and Sensitivity Analysis in Dynamical Systems](#), 2011, a masters thesis

Papers

- Al-Rfou, Rami, et al [Theano: A Python framework for fast computation of mathematical expressions](#), arXiv preprint arXiv:1605.02688 (2016).
- A. Meurer et al [SymPy: symbolic computing in Python](#), PeerJ Computer Science 3 (2017): e103.
- M. Rocklin, A. Pinar [On Clustering on Graphs with Multiple Edge Types](#), Internet Mathematics, 2012
- E. Constantinescu, V. Zavala, M. Rocklin, S. Lee, and M. Anitescu, [A Computational Framework for Uncertainty Quantification and Stochastic Optimization in Unit Commitment with Wind Power Generation](#). IEEE Transactions on Power Systems, 2010.

Conference Proceedings

- M. Rocklin, [Dask: Parallel computation with blocked algorithms and task scheduling](#), Proceedings of the 14th Python in Science Conference. 2015.
- M. Rocklin, [Uncertainty Modeling with SymPy Stats](#) SciPy 2012
- M. Rocklin, A. Pinar, [Computing an Aggregate Edge-Weight Function for Clustering Graphs with Multiple Edge Types](#). Algorithms and Models for the Web-Graph, 2010
- M. Rocklin, A. Pinar, [Latent Clustering on Graphs with Multiple Edge Types](#) Algorithms and Models for the Web-Graph, 2011

Other

- M. Rocklin, A Pinar, [Spectral Generation and Latent Community Structure of Multiweighted Networks](#), 2010
- M. Rocklin, E. Constantinescu, [Adjoint Sensitivity Analysis for Wind Power Generation](#), 2009
- US Patent 7620209: [Method and apparatus for dynamic space-time imaging system](#)