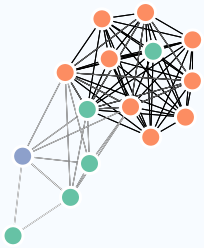
ANDERSON BANIHIRWE

I contribute to and maintain several libraries within the open source scientific Python stack, particularly around improving scalability of Python tools in order to handle terabyte-scale datasets on HPC and cloud platforms.



EDUCATION

2018 | 2014

B.S., Computer Systems Engineering
University of Arkansas at Little Rock — Little Rock, AR

PROFESSIONAL EXPERIENCE

present | 2020-10

Software Engineer ||
National Center for Atmospheric Research — Boulder, CO

- Created jupyter-forward, a Jupyter Lab port forwarding utility that simplifies running jupyter on remote resources.
- Served as a core developer of xarray, an open source library for working with multidimensional labeled datasets and arrays in Python.

2020-9 | 2018-10

Software Engineer |
National Center for Atmospheric Research — Boulder, CO

- Lead the intake-ESM project, a Python data cataloguing package for exploring and ingesting earth system model data sets.
- Contributed to the core software stack powering the Pangeo Project. Some of the projects I contributed to include: xarray, dask.
- Assisted with the development and deployment of live (virtual or in-person) and online/self-paced education material.

2018-09 | 2018-05

Software Developer Intern
Quansight — Austin, TX

- Developed xndframes[1], a Pandas ExtensionDtype/Array backed by xnd[2], a container type that maps most Python values relevant for scientific computing directly to typed memory.
- Worked on integrating cuDF[3] - GPU dataframe library with Apache Arrow[4] library.

2018-04 | 2017-11

Data Science Intern
First Orion — Little Rock, AR

- Built scoring, predictive models with Scikit-learn, Dask, and Apache Spark using First Orion's proprietary telecommunication data.

2017-08 | 2017-05

Research Intern
National Center for Atmospheric Research — Boulder, CO

- Developed spark-xarray[5], a Python package that integrates PySpark and xarray for climate data analysis.

View this CV online with links at *cv.andersonbanihirwe.dev*

CONTACT

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linkedin.com/in/andersy005

Last updated on 2020-12-16.

SELECTED PUBLICATIONS, POSTERS, AND TALKS

2020-11

Cloud-Native Repositories for Big Scientific Data[6]

Computing in Science and Engineering

- Authored with Ryan Abernathey, Tom Augspurger, et al.

2020-10

Pangeo Benchmarking Analysis: Object Storage vs. POSIX File System[7]

Fifth International Parallel Data Systems Workshop @ SC 20

- Authored with Haiying Xu, Kevin Paul

2020-01

The Pangeo Ecosystem: Interactive Computing Tools for the Geosciences: Benchmarking on HPC[8]

2019 Supercomputing Conference Workshop on Interactive High-Performance Computing

- Authored with Tina Erica Odaka, Guillaume Eynard-Bontemps, Aurelien Ponte, Guillaume Maze, Kevin Paul, Jared Baker, Ryan Abernathey.

2020-09

Zarr: chunked, compressed, multidimensional arrays[9]

2020 Cloud Native Geospatial Outreach Day — Online

- Invited talk about Zarr[10], an open source data format for the storage of chunked, compressed, multidimensional arrays.

2020-07

Intake-ESM – Making It Easier To Consume Climate and Weather Data[11]

2020 ESIP Summer Meeting — Online

- Invited talk about intake-esm, an intake plugin for working with Earth System Model (ESM) datasets.

2019-01

Perceptual Judgments to Detect Computer Generated Forged Faces in Social Media[12]

IAPR Workshop on Multimodal Pattern Recognition of Social Signals in Human-Computer Interaction

- Authored with Suzan Anwar, Mariofanna Milanova, Mardin Anwer.

2019-07

Interactive Supercomputing with Dask and Jupyter[13]

2019 Scientific Computing with Python conference — Austin, TX

- Contributed talk about Dask and Jupyter.

2018-04

Beyond Matplotlib - Tutorial: Building Interactive Climate Data Visualizations with Bokeh and Friends[14]

2018 UCAR Software Engineering Assembly conference — Boulder, CO

- Contributed tutorial about interactive visualization with Python.

2018-01

PySpark for "Big" Atmospheric Data Analysis

Eighth Symposium on Advances in Modeling and Analysis Using Python — Austin, TX

- Contributed talk about spark-xarray[15].

LINKS

1. https://github.com/xnd-project/xndframes
2. https://github.com/xnd-project
3. https://github.com/rapidsai/cudf
4. https://arrow.apache.org/
5. https://ncar.github.io/PySpark4Climate/
6. https://www.authorea.com/doi/full/10.22541/au.160443768.88917719
7. https://doi.org/10.31223/X5ZW2T
8. https://doi.org/10.1007/978-3-030-44728-1_12
9. https://talks.andersonbanihirwe.dev/zarr-cloud-native-geospatial-2020.html
10. https://github.com/zarr-developers
11. https://talks.andersonbanihirwe.dev/intake-esm-esip-2020.html
12. https://www.researchgate.net/profile/Mariofanna_Milanova/publication/333414231_Perceptual_Judgments_to_Detect_Computer_Ge
    Judgments-to-Detect-Computer-Generated-Forged-Faces-in-Social-Media.pdf
13. https://youtu.be/vhawO8fgD64
14. https://sea.ucar.edu/event/beyond-matplotlib-building-interactive-climate-data-visualizations-bokeh-and-friends
15. https://ncar.github.io/PySpark4Climate/sparkxarray/overview/