Jackson Maxfield Brown

Jackson Maxfield Brown
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Experience

PhD Student and Research Assistant / University of Washington
September 2021 - Present, Seattle, Washington, USA

I am currently a PhD student at the University of Washington Information School working under Dr. Nicholas Weber and Dr. Bill Howe. I am interested in large scale information and data access as it applies to open source and open science research, elected official accountability and transparency, or pure utilities of the government such as transportation and urban planning systems.

Open Source Developer / Allen Institute for Cell Science (allencell.org)
August 2021 - Present, Seattle, Washington, USA

I continue to lead the development and maintenance of AICSImageIO. An open source image reading and writing library for Microscopy images in Python. Downloaded ~2,000 per month.

Data Engineer / Numina (numina.co)
October 2020 - Present, Remote - Seattle, Washington, USA

Designed, built, and optimized the back-end data storage and processing systems, and created systems and tools for urban space use analysis.

- Designed data flows and back-end systems to support data processing and delivery needs at scale.
- Developed and optimized methods for managing time-series, sensor, and user data.

Research Data Engineer / Allen Institute for Cell Science (allencell.org)
November 2017 - October 2020, Seattle, Washington, USA

Created reproducible, scalable, and robust scientific image processing pipelines and tooling for large dataset management while additionally contributing to and setting broader research goals for the institute.

- Established reproducibility standards for computational biology pipelines and data.
- Led the development of many image and feature analysis pipelines run and maintained at the institute.
- Assisted scientists in development of new machine learning methods and analysis tools

Education & Interests

Bachelor of Science / University of Washington - Informatics
September 2013 - June 2017, Seattle, Washington, USA

PhD Student / University of Washington - Information Science
September 2021 - Present, Seattle, Washington, USA

Papers

For an always up-to-date list of publications, see my Google Scholar profile.

Council Data Project: Software for Municipal Data Collection, Analysis, and Publication

Journal of Open Source Software - 2021

Jackson Maxfield Brown, et. al.

https://doi.org/10.21105/joss.03904

A deep generative model of 3D single-cell organization

preprint - 2021

Rory Donovan-Maiye, et. al.

https://doi.org/10.1101/2021.06.09.447725

DSDB: An Open-Source System for Database Versioning & Curation

Joint Conference on Digital Libraries - 2021

Jackson Maxfield Brown and Nic Weber

https://doi.org/10.1109/JCDL52503.2021.00044

Managing Manifests and Distributing Datasets

Workshop on Research Objects - 2019

Jackson Maxfield Brown

https://doi.org/10.5281/zenodo.3382258

Software & Data

I generally work in the open, see my GitHub profile.

Council Data Project

Jackson Maxfield Brown et. al.

A set of open-source tools that improve the accessibility of local government data by systematically collecting, transforming, and re-publishing this data to the web.

Website: https://councildataproject.org
Code Repository: https://github.com/CouncilDataProject/

AICSImageIO

Jackson Brown, Jamie Sherman, Madison Bowden, Dan Toloudis

Delayed, chunked, n-dimensional image reading, metadata conversion, and image writing for Microscopy images in pure Python. The library standardizes the many disparate image reading libraries while additionally allowing the user to scale to any size image and spread the memory and processing across an HPC cluster.

Code Repository: https://github.com/AllenCellModeling/aicsimageio

ACTK (Automated Cell Toolkit)

Jackson Brown, Rory Donovan-Maiye, Gregory Johnson

A pipeline to process field-of-view microscopy images to generate feature and model ready training data for each cell. Products of this pipeline can be found in the Cell Feature Explorer.

Code Repository: https://github.com/AllenCellModeling/actk
Produced Data: https://open.quiltdata.com/b/allencell/tree/aics/actk/master/