

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 in the DataLab. My work focuses on public interest technology, the use of government data, and open-source software. I aim to be an applied researcher, producing software and knowledge that benefit the public through building large-scale data access systems that encourage civic participation.

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
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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

Please see my [Google Scholar profile](#) for a full list of my publications.

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 Dataset 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

Please see my [GitHub profile](#) for a more in-depth review of my work.

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/>