

Atilio Barreda II

data.atil.io | github.com/lolusername

PUBLICATIONS

Barreda II, A., C. Diaz Eaton, S. Hansen, J. E. Hibdon Jr., L. T. Gordon, R. Greenwald, M. J. Gutiérrez Paz, K. Ince, C. Kelling, A. Mendible, J. Mercado, V. Piercey, and B. Thompson. "Community-Driven Data Science Practices." *La Matematica* (upcoming)

SKILLS

Languages: Python, JavaScript, TypeScript, SQL

Databases: PostgreSQL, MongoDB

Frameworks & Tools: FastAPI, Svelte, Vue, Nuxt, Vite, Node.js, Express, HTML/CSS, Tailwind, Docker, Git, CLI, Elasticsearch, NumPy, Pandas, Matplotlib, D3.js

Cloud/Infra: AWS (ECS, S3, Lambda), Firebase, Netlify, MongoDB Atlas, Supabase

Other: Spanish, Adobe Creative Cloud (Photoshop, InDesign, Premiere Pro, Illustrator)

PROFESSIONAL EXPERIENCE

Freelance Software Engineer, Studio Miski

Jan 2020 - Present

- Launched a searchable email analysis platform for nonprofit D4BL (125K+ emails indexed), cutting data retrieval time from ~10 minutes to under 1 minute.
- Delivered interactive topic/entity visualizations and document-level annotations so researchers can validate hypotheses quickly and jump from patterns to source documents.
- Deployed a containerized production stack on AWS EC2 (Docker, Nginx).
- Delivered similar data-processing + visualization tools for nonprofits/academics.

Adjunct Lecturer, Computer Systems Technology Dept., New York City College of Technology (CUNY)

Aug 2020 - Present

- Designed and taught 5 distinct courses (Intro Data Science, Machine Learning Fundamentals, Database Administration, Intro to Computing, Intro to NoSQL Databases).

Senior Software Engineer, Global Healthcare Exchange

Jun 2023 - Jun 2024

- Developed and shipped interactive analytics dashboards using Vue.js with Django REST APIs, enabling stakeholders to explore key metrics in real time.
- Partnered with design and client stakeholders to prototype dashboards in 2-4 days, accelerating feedback loops and preventing wasted build time on unvalidated concepts.

Frontend Engineer, Calvin Klein

Jun 2019 - Jan 2020

- Automated image-asset creation pipelines with JavaScript + Adobe InDesign scripting; reduced per-campaign production effort by 20%, saving 12 hours per campaign and freeing designers for higher-value art direction.

Frontend Engineer, Turbonomic

Jul 2017 - Jun 2019

- Implemented a Git-based WordPress workflow on AWS (replacing direct FTP), enabling versioned rollbacks and cutting release cycles from hours to ~15 minutes.

User Interface Engineer, Sentient Jet

Jun 2015 - Jul 2017

- Built internal flight-operations dashboards (flights scheduled vs. flown, empty legs, revenue) to consolidate key metrics in one interface, reducing reliance on multiple third-party tools

Freelance Web Developer & Designer

2012 - Jun 2015

- Built static sites and WordPress themes for entrepreneurs/artists.

RESEARCH EXPERIENCE

Graduate Research Mentor

Simons Laufer Mathematical Sciences Institute (SLMath), UC Berkeley (Summer 2025) Mathematical Sciences Research Institute Undergraduate Program (MSRI-UP)

- Collaborating with directors Dr. Robin Wilson and Dr. Omayra Ortega to guide 18 undergraduates through a six-week intensive REU.
- Delivered workshops on data visualization techniques for data science research and software engineering best practices for deploying reproducible research projects.

Visiting Scholar

The Institute for Mathematical and Statistical Innovation, University of Chicago (Winter 2023)

Co-Creating a Community Data Visualization Tool with Community Partners

- Developed VECINA, a bilingual online mapping platform that integrates environmental, flooding, healthcare, and K-12 education data with contextual narratives to empower community advocacy in Olneyville, Providence, RI.

Open Educational Resources (OER) Fellow

New York City College of Technology (2023)

- Served as an OER Fellow focusing on developing and integrating open educational resources for data science and technology courses, resulting in reduced costs and improved accessibility for students.

Visiting Researcher

The Institute for Computational & Experimental Research in Mathematics, Brown University (Summers 2022-23)

Data Science and Social Justice: Networks, Policy, and Education

- Participated in the Data Science and Social Justice Summer Institute, applying interdisciplinary methods to data analysis and visualization and working with non-profit partner Nuevas Voces to create data-centric tools for organizing and civic engagement.

Digital Humanities Fellow

Mina Rees Library, CUNY Graduate Center (2022)

- Created citation-network visualizations for the Debates in the Digital Humanities anthology series.

Processing Fellow

Processing Foundation (2022)

- Awarded funding to prototype an open-source whiteboard application to enhance data science education using P5.js.

SELECTED PROJECTS

Multi-Document Graph Visualizer

A tool designed for researchers, journalists, and activists to discover and visualize hidden connections across diverse documents. Built with Python and JavaScript, it features interactive network graphs (using D3.js), automatic text processing, and relationship detection.

Technologies: Python, JavaScript, D3.js, Natural Language Processing, Network Analysis.

Cluster Viz

An interactive clustering lab for educators. Instructors can sketch ideas, reseed datasets, drop custom samples, run RGB-space k-means to build image color palettes, and immediately demonstrate how K-Means or DBSCAN.

Technologies: SolidJS, TypeScript, Vite, D3.js, HTML5 Canvas, TailwindCSS, TensorFlow.js.

Redact: Privacy-First Face Detection Tool

A web-based solution that protects identities by automatically detecting and covering faces in photos. The tool processes images entirely on the client-side, removing all metadata to ensure privacy.

Technologies: JavaScript, Face-API.js, HTML5 Canvas, WebGL, Neural Networks.

EDUCATION

MS in Data Analysis and Visualization

CUNY Graduate Center (2021-2025)

Relevant Courses: Interactive Data Visualization, Big Data Analytics

BA in Modern Culture and Media (Literary Theory & Digital Media Production)

Brown University (2008-2012)

Relevant Courses: Human Cognition, Advanced Documentary Production, Computer Generated 3D Imagery