# CLAIRE BOYD

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## EDUCATION

**The University of Chicago** — Chicago, IL
Master of Science in Computational Analysis and Public Policy — June 2024
*Relevant Coursework:* Machine Learning, Big Data Application Architecture, Time Series Analysis, Cloud Computing, Causal Inference

**The University of North Carolina at Chapel Hill** — Chapel Hill, NC
Bachelor of Arts in Political Science and Global Studies — May 2018
Robertson Scholar: a full merit scholarship program which requires a semester in residence at Duke University.

## SKILLS

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| Programming languages: | Python, R, SQL, git, HTML (basics), CSS (basics), bash (basics), Scala (basics) |
| Machine learning: | linear and logistic regression, decision trees, neural networks (python: pytorch, scikit-learn, R: tidymodels) |
| Time series forecasting: | Regression, ARIMA, Exponential smoothing (python: prophet, R: ts, forecast, tseries) |
| Cloud computing: | Apache (HDFS, Hadoop, Hive, Spark), AWS (s3, ec2, Lambda, SQS, SNS), midway2 computing cluster |
| Analysis & visualization: | Python (pandas, polars, matplotlib, plotly), R (tidyverse, ggplot3), PowerBI, Tableau Public, Excel |
| Management: | Project Scoping, Project Management, Grant & Proposal Writing, Fundraising, Public Speaking |

## EXPERIENCE

**New York City Department of Finance** — New York, NY
*Data Scientist (City Research Scientist II), Property Modeling & Valuation* — October 2024 – Present

- Leads modernization of DOF's property valuation technical infrastructure, engineering secure data pipelines and R/Python workflows to replace legacy SAS systems – enabling secure data access behind agency firewalls and expanding use of open-source tools.
- Designs, develops and maintains *assessNYC*, a modular R package that streamlines the team's workflow by automating model development, validation and reporting, using GitHub to manage CI/CD workflows, version control, and comprehensive documentation.

**Mansueto Institute for Urban Innovation** — Chicago, IL
*Research Engineer, Urban Research Corps* — October 2023 – June 2024

- Made faculty-led research projects more replicable, by automating data pipelines for modeling the impacts of economic development at the neighborhood level, with a creative use of open-source software packages in Python and R (e.g. r5py/r5r).
- Deployed big data techniques to ingest, clean, and analyze national property assessment data to create city and county-specific profiles, explaining how the locality is performing in terms of vertical and horizontal equity for property taxes.

**New York City Mayor's Office of Technology and Innovation** — New York, NY
*Data Science Intern, Office of Data Analytics* — June 2023 – September 2023

- Used time series modeling of 750K relevant 311 requests to predict the volume of weekly rat activity for every NYC neighborhood, with an average MAPE of 5.6%, which currently feeds into a live PowerBI dashboard which informs targeted rat mitigation efforts.
- Built a learning agenda for a cross functional group of data practitioners from 12 different city departments to align demographic data standards, successfully easing inter-agency data sharing.

**Cook County Assessor's Office** — Chicago, IL
*Data Science Intern, Data Department* — March 2023 – June 2023

- Developed and integrated a new feature, the "comparable finder," which uses tree traversal to identify the most similar Cook County properties to any of Cook County's 2.3M residential properties, now a key tool in evaluating models before finalization.
- Enhanced functionality of Cook County Assessor's Office R package lightsnip by adding the above feature, aiding in formal documentation and development of the feature for public use.

**Urban Institute** — Washington, DC
*Research Associate & Analyst, Office of Race and Equity Research* — August 2018 - July 2022

- Served as a co-principal investigator and project manager across 5 projects (budget sum: $430,000), partnering with senior researchers to identify research questions, develop cohesive methodologies, conduct analyses, and present findings to clients.
- Conducted comprehensive data analysis in R using sophisticated matching methods to link administrative federal data to publicly available census estimates for racial equity analysis. These analyses are referenced in public Equity Action Plans.
- Streamlined quantitative (R) and qualitative (NVivo) data analyses on nonprofit-specific data for 6 philanthropic and federal program evaluations, making comprehensive, concise visuals to explain complex results.
- Led sample development, data cleaning, analysis and report writing for Salesforce.org's 3rd annual Global Nonprofit Trends survey (of over 1,600 responses) while navigating technical restraints due to General Data Protection Regulation compliance.

## CIVIC ENGAGEMENT

**Data, Ethics & Policy**
*Founding Board Member & Fundraising Chair, Harris Student Organization* — April 2023 – June 2024

- Fundraised $19,500 and project managed a full-day conference in October 2023 exploring topics such as: regulation of AI at the local level, public sector partnerships, and data activism. The event brought in 12 high-profile speakers from across the country and engaged with 130 unique attendees, 32% of which were from the larger Chicago community (non-UChicago).