

Nathan Watkins

New York, NY (relocation-ready) • nathan.watkins.dc@gmail.com
<https://nathanwatkinsdc.github.io> • (215) 824-6136

Summary

Strategic data scientist and former actuary with deep experience in fraud risk analytics, model governance, and federal workforce data. Known for building high-impact tools—from automated reporting systems and machine learning models to interactive R/Python dashboards—that influence policy, supervision, and agency decision-making. Passionate about equity, data storytelling, and the responsible use of AI in government. Skilled in Python, R, SQL, Tableau, and more. ASA credentialed. Top-rated performer and award-winning leader at FHFA. Seeking senior analytics opportunities in NYC.

Experience

Senior Risk Analyst, Fraud Analytics

Federal Housing Finance Agency, Washington, DC • May 2024 – Present

- Built FHFA's first enterprise fraud monitoring system using monthly SAR loan-level data from Fannie Mae and Freddie Mac, integrating GTO overlays, macroeconomic indicators, and MLIS internal database to surface supervisory risks in an \$8+ trillion portfolio.
- Developed dynamic cycle time metrics, GTO exposure reports, and geospatial risk visuals (heatmaps, choropleths) using Jupyter, Plotly, and matplotlib to inform quarterly supervisory planning and reports of examination.
- Proposed and designed supervised learning models to predict fraud-related losses across a \$20B+ segment, exploring logistic regression and novel features.
- Created internal analytics websites using R Markdown/Shiny to deliver real-time visualizations of fraud trends and automate reporting; redesigned the agency's fraud/fincrimes intranet page.
- Led migration from Tableau to Power BI following license cuts, rebuilding dashboards and authoring training materials; effort saved \$30K/yr for the division and \$200K for the agency.
- Maintained fraud surveillance workflows during a 2-FTE gap by automating cleaning, slicing, and export tasks in Python, ensuring uninterrupted internal reporting.
- Earned promotion to Senior Data Scientist in newly created Data Science & Automation Branch (effective Q3 2025); recognized for automating fraud monitoring workflows and tasked with boosting analytical support to exam teams using data engineering, warehousing, and ML tools.

Senior Risk Analyst, Modeling

Federal Housing Finance Agency, Washington, DC • Mar 2020 – May 2024

- Monitored high-risk "core models" at regulated entities (credit, capital, AVMs, underwriting, etc.), curating risk intelligence using the CAMELSO framework for internal and exam team use.
- Built interactive R Shiny dashboards to visualize model interdependencies, AI/ML usage, and output forecasts; tools informed supervisory priorities and included custom features.
- Cut report production time in half by transforming qualitative assessments into reproducible, data-rich dashboards using Tableau, R, and Power Query—shaping year-end reports of examination and supervisory scope.

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- Co-authored FHFA Advisory Bulletin 2022-03 and independently authored a supervisory letter on ChatGPT/LLMs, guiding responsible AI use aligned with Executive Orders and FHFA policy.
- Proposed an internal LLM-powered regulatory knowledge base to meet Congressional goals under budget constraints; delivered technical and policy recommendations to leadership.

Senior Fintech and Innovation Analyst

Federal Housing Finance Agency, Washington, DC • Dec 2023 – May 2024 (50% Detail Role)

- Drafted FHFA's internal AI permissible use policy for 700+ employees; launched agency-wide AI Steering Committee and collaboration channels to guide adoption.
- Built and led AI trainings for agency TechSprint, reducing vendor costs by \$40K while increasing cross-divisional engagement with generative AI tools.

Actuary

Horizon Actuarial Services, Washington, DC • Jan 2017 – Mar 2020

- Led annual actuarial valuations for 8 multiemployer pension plans (e.g., trades, MLB, NHL) with \$10B+ in assets; performed data cleaning, modeling, and regulatory report production.
- Supported trustees with cost analyses and forecasts for collective bargaining, presenting scenarios informed by interest rate and workforce trends.
- Piloted a new valuation prototype using Excel, Access, and Power Query to replace legacy software, proposing a \$20K/user savings versus proprietary alternatives.
- Created MS Office add-ins for 20+ actuaries to streamline valuation report editing, improving quality control and saving hours per user annually.
- Attained the Associate of the Society of Actuaries (ASA) credential in 2019.

Teacher, English Language and Literature

Chungdahm Learning, Seoul, South Korea • Aug 2014 – Jun 2016

Education

M.S. Computational Data Analytics

Georgia Institute of Technology, 2023

- **Capstone:** Designed and deployed interactive dashboards and predictive models to compare pay equity, employee engagement, and workforce composition at FHFA versus peer financial regulators using FedScope and FEVS datasets covering 1M+ federal employees.
- Applied regression, ensemble models (random forest, gradient boosting), and Gini coefficient analysis to identify predictors of salary and inequality; findings directly informed union organizing and bargaining strategy at a U.S. regulatory agency.

B.A. Mathematics & Economics, Minor in Statistics, Certificate in German

University of Pennsylvania, 2013