

Nathan Watkins

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SUMMARY

Data scientist and former actuary with degrees in econ, math, and data analytics. Background in model risk and fraud risk management and supervision. Passionate about data visualization and experienced in developing and using models, translating complex data into actionable insights, and applying machine learning techniques. Skilled in Python, SQL, R, and more (see Skills).

Open to remote, in-office, or hybrid roles. Based in DC and open to relocating immediately to NYC.

EDUCATION

MS in Computational Data Analytics, Georgia Tech 2023

- Courses in analytics, business, computing, databases, data mining, ML, regression, simulation

BA in Economics and Math, Minor in Statistics, University of Pennsylvania 2013

- Courses in abstract and linear algebra, calculus, econometrics, programming, statistics

PROFESSIONAL EXPERIENCE

FEDERAL HOUSING FINANCE AGENCY Washington, DC

Senior Risk Analyst (Financial Crimes), Office of the Chief Accountant May 2024 – Present

- Monitor risk of fraud and suspicious activity at Fannie Mae and Freddie Mac
- Drive supervisory priorities by developing and maintaining custom Tableau dashboards
- Build cloud analytics platform and develop machine learning models to predict fraud
- Create intranet sites using R/HTML/CSS/JS and implement using CI/CD pipeline
- Automate processes using Python, SQL, and other modern business intelligence tools

Senior Examination Specialist (Model Risk), Office of Modeling Mar 2020 – May 2024

- Conducted model risk ongoing monitoring and targeted examinations at housing banks
- Guided supervision with internal model risk analytics dashboard built with R Shiny
- Authored advisory bulletin sections and supervisory letters on emerging risk areas
- Transformed model risk assessments into data-driven and reproducible reports
- Automated quarterly reports on model inventories and house price projections
- Developed proposal on fine-tuning/deploying in-house, pre-trained LLMs for supervision

Senior Fintech & Innovation Specialist, Office of Financial Technology Dec 2023 – May 2024

- Developed AI permissible use policy and supported AI program rollout in 50% part-time role
- Launched the AI Steering Committee and created/moderated the AI Teams Channel
- Designed website for FHFA's TechSprint competition: Generative AI in Housing Finance

HORIZON ACTUARIAL SERVICES Silver Spring, MD

Actuary Jan 2017 – Mar 2020

- Completed valuations for multiemployer pension plans with \$10B+ in assets and liabilities
- Analyzed work levels and labor costs, projected cost of changes to benefits/contributions
- Led Data Committee, prototyped an open-source valuation process saving \$20k/user/year
- Presented annual pension fund valuation results to technical and non-technical audiences
- Created and deployed a suite of efficiency-boosting MS Office add-ins for 20+ users

SKILLS

Coding — Java, JavaScript, MATLAB, Python, R, SAS, SQL

Content and Workflow Management — Airtable, GitHub, Power Automate, SharePoint, Trello

Data — databases, dplyr, FTP, Git/version control, pandas, structured/unstructured data, tidyR

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Data Visualization — d3, Dash, Excel, Flask, ggplot2, Plotly, Power BI, R Shiny, Tableau

Machine Learning — supervised/unsupervised/deep/reinforcement learning algorithms

Report Automation — Jupyter/Colab, LaTeX, Overleaf, MATLAB Report Generator, VBA

Web Design — Adobe, Canva, CSS, HTML, Jekyll, Markdown, WordPress

ACHIEVEMENTS

CREDENTIAL

Associate of the Society of Actuaries 2019

- *Exams in probability, financial math, actuarial models, predictive analytics, statistics*

NON-DEGREE EDUCATION

George Mason University, Course in Relational Databases 2019

Nova CC, Courses in Computer Organization and Programming 2018

TRAININGS

AWS Cloud Practitioner 2025

Certified Scrum Master 2025

School of Mortgage Banking I/II, Mortgage Bankers Association 2021/2023

Inclusive Leadership Development 2023

Tableau Beginner/Intermediate/Advanced 2021/2022/2023

LEADERSHIP

Officer and Founder, Employee Resource Groups, FHFA 2022 – 2024

Chair and Founder, Employee Advisory Council, FHFA 2020 – 2024

AWARDS

Top Performance Rating (4 out of 4), FHFA 2021 – 2024

Excellence Award Winner, FHFA 2021, 2023

IdeaScale Innovation Campaign Winner, FHFA 2023

OTHER EXPERIENCE

Tutor (English, Pre-Calculus, Calculus, SAT), Washington, DC Aug 2016 – Jan 2017

English Language & Literature Teacher, Seoul, Korea Aug 2014 – Jun 2016