

Nathan Watkins

Washington, DC • nathan.watkins.dc@gmail.com • (215) 824-6136

SUMMARY

Data scientist with background in financial analytics, risk assessment, and data-driven decision-making. Experienced in developing quantitative models and translating complex data into actionable insights using Python, SQL, R, and machine learning techniques.

PROFESSIONAL EXPERIENCE

FEDERAL HOUSING FINANCE AGENCY

Washington, DC

Senior Risk Analyst (Financial Crimes), Office of the Chief Accountant

May 2024 – Present

- Drive supervisory priorities and monitor mortgage fraud using 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 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
- Fostered responsible innovation by launching AI Steering Committee and AI Teams Channel
- Designed website for FHFA's TechSprint competition: Generative AI in Housing Finance

Senior Examination Specialist (Model Risk), Office of Modeling

Mar 2023 – May 2024

- Guided model risk supervision with internal model risk analytics dashboard built with RShiny
- Conducted ongoing monitoring and targeted examinations of core models at housing banks
- Authored advisory bulletin sections and supervisory letters on emerging risks like AI
- Developed proposal on fine-tuning and deploying in-house, pre-trained LLMs for supervision

Examination Specialist (Model Risk), Office of Modeling

Mar 2020 – Mar 2023

- Transformed model risk assessments into data-driven, quantitative, and reproducible reports
- Analyzed model risk attributable to high-risk models and modern modeling methods (AI/ML)
- Created division training materials on model risk management and workplace technologies
- Produced and automated quarterly reports on model inventories and house price projections

HORIZON ACTUARIAL SERVICES

Silver Spring, MD

Actuary

Dec 2019 – Mar 2020

- Presented annual pension fund valuation results to technical and non-technical audiences
- Led Data Committee effort to develop data standards and replace valuation software
- Prototyped open-source actuarial valuation process with savings of \$20k/user/year

Actuarial Analyst

Jan 2017 – Dec 2019

- Completed valuations for multiemployer pension plans with \$10B+ in assets and liabilities
- Analyzed work levels and labor costs, projected cost of changes to benefits and contributions
- Created and deployed suite of efficiency-boosting MS Office add-ins, adopted by 20+ users
- Automated business processes and report generation using Excel, Power Query, and VBA

EDUCATION

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

2013

- Courses: Algebra, Calculus, Econometrics, Programming, Statistics

Georgia Tech, MS in Computational Data Analytics

2023

- Courses: Analytics, Business, Computing, Databases, Data Mining
Machine Learning, Modeling, Practicum, Regression, Simulation

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OTHER EXPERIENCE

<i>Tutor (English, Pre-Calculus, Calculus, SAT), Washington, DC</i>	Aug 2016 – Jan 2017
<i>English Language & Literature Teacher, Seoul, Korea</i>	Aug 2014 – Jun 2016

ACHIEVEMENTS

CREDENTIAL

Associate of the Society of Actuaries	2019
• Select Exams: Financial Math, 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

SKILLS

Coding — Java, JavaScript, MATLAB, Python, R, SAS, SQL
Content and Workflow Management — GitHub, SharePoint
Data — databases, dplyr, FTP, Git/version control, pandas, structured and unstructured data, tidyR
Machine Learning — supervised/unsupervised/deep/reinforcement learning algorithms
Report Automation — Jupyter/Colab, LaTeX, Overleaf, MATLAB Report Generator, VBA
Visualization — d3, Excel/Google Charts, ggplot2, HTML/CSS, Plotly, Power BI, Tableau

INTERESTS

AI — ChatGPT power user who's optimistic about the transformative wave that we're about to ride
Books — Avid reader whose favorite books are *Thinking Fast and Slow*, *1Q84*, and *Atlas of the Heart*
Data Viz — Someone who likes making pretty charts when off the clock and just for fun
Pickleball — Former tennis player and runner who regrets not learning about pickleball earlier