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# PROFESSIONAL SUMMARY

Seasoned Data Scientist with over 16 years of experience in model development, validation, and quantitative analysis across banking, finance, and compliance-driven sectors. Holds a Master of Science in Mathematics and brings deep expertise in predictive modeling, machine learning, and time-series forecasting. Proven ability to lead independent model validation efforts—including back-testing, benchmarking, sensitivity analysis, and regulatory documentation—in alignment with enterprise risk and governance standards. Skilled in communicating complex technical findings to executive and non-technical audiences. Technically proficient in Python and SQL, with hands-on experience validating models used for credit risk, asset-liability management, deposit forecasting, and operational planning.

# TECHNICAL & PROFESSIONAL SKILLS

**Digital Transformation & Innovation Leadership**

Led **large-scale AI/ML deployments**, data ecosystem modernization, and cross-functional innovation initiatives across mission-critical environments. Experience driving automation, self-service analytics, and consumer-centered digital strategies.

**AI/ML Strategy & Implementation**

Proficient in scikit-learn, XGBoost, TensorFlow, and PyTorch; developed **models for forecasting, anomaly detection**, and **behavioral risk scoring**. Skilled in model lifecycle management, monitoring, and ethical AI governance.

**Enterprise Data & Analytics Platforms**

Power BI, Tableau, Python (pandas, Plotly, Seaborn), Kibana, PowerApps; built **interactive dashboards** and **reporting systems** to support clinical decisions, operational insights, and executive reporting.

**Data Integration & Interoperability**

Designed cross-platform data pipelines using SQL, Python, and API-driven architecture. Experience **integrating structured and unstructured data** from cloud, on-prem, and hybrid systems. Familiar with FHIR concepts and data consolidation in healthcare-relevant systems.

**Cybersecurity & Compliance**

Led **penetration testing**, **threat modeling**, and **policy enforcement initiatives**. Implemented dashboarding and risk frameworks aligned with HIPAA, NIST, and enterprise-grade security standards.

**Cloud & Infrastructure Awareness**

**Familiar with AWS services** (S3, Lambda, SageMaker), **Azure integration**, and **containerized deployment using Docker**. Understands cloud-native architecture and data residency concerns in regulated environments.

**Programming & Automation**

Fluent in Python, SQL, C++, Visual Basic, and Matlab. **Automated data workflows, analytics reporting, and system monitoring** for multi-domain operations.

**Strategic Execution & Executive Communication**

Experienced in aligning digital initiatives with C-suite objectives. Delivered briefings, **built analytics roadmaps**, and **led innovation teams to pilot and scale transformative technologies** across enterprise functions.

# PROFESSIONAL EXPERIENCE

**Booz Allen Hamilton - Colorado Springs, CO 2023-Present**

**Lead Scientist**

* Lead the design, training, and deployment of machine learning models supporting national security and operational readiness.
* Developed custom AI/ML agents, web applications, and data analytic tools to support diverse operational needs across intelligence, logistics, and strategic planning teams.
* Created advanced dashboards and interactive visualizations using Power BI, Tableau, PowerApps, Kibana, and Python (Plotly, Matplotlib) to communicate key findings and enable data-driven decisions.
* Built and maintained secure, scalable data integration pipelines ingesting multi-source structured and semi-structured data.
* Collaborated with cross-functional stakeholders to convert mission needs into technical solutions and product enhancements.
* Delivered clean, maintainable code and reusable analytics components using Git-based workflows and engineering best practices.

# Leidos – Denver, CO 2022 – 2023

# Chinese Language and Cultural Aanlyst

* Conducted linguistic screening and translation of high-volume foreign-language documents, extracting actionable intelligence and aligning outputs with mission-critical priorities.
* Applied foundational natural language processing (NLP) techniques and analytical frameworks to support content triage and thematic clustering across large datasets.
* Collaborated with intelligence analysts to structure and interpret unstructured data, contributing to broader trend analysis and decision support.
* Participated in forensic data processing and document exploitation workflows, supporting operational intelligence reporting and digital artifact analysis.
* Leveraged custom tools and internal databases to flag patterns, anomalies, and linguistic indicators relevant to national security operations.

# UNITED STATES ARMY – Various Locations 2013 – Present

# Cyber Security Analyst

* Led a cyber operations team in a deployed environment, supporting mission-critical systems with a focus on cyber threat detection, incident response, and data-driven defense strategies.
* Conducted penetration testing and vulnerability assessments on over 120 commercial and government systems, generating detailed reports and custom dashboards for remediation planning.
* Developed internal cyber analytics tools to automate security event correlation, prioritize risk indicators, and visualize attack vectors across multiple operational domains.
* Performed network traffic analysis to uncover anomalous behavior, using structured logs and threat intelligence feeds to train detection models.
* Designed and implemented dashboards using Python and Kibana, transforming raw security logs into actionable intelligence for commanders.
* Supported incident response through root cause analysis and correlation of multi-source security data; informed rapid decision-making during cyber events.
* Collaborated with IT, intelligence, and mission operations teams to enforce security policies, improve cyber hygiene, and shape data-informed readiness assessments.

# Property Manager & Security Specialist

* Managed accountability and movement of over $26 million in government property, including equipment, vehicles, and weapons systems across multi-echelon organizations.
* Designed and maintained a custom database system to track asset status, locations, custodians, and hand receipts, enabling real-time data access across rear detachment and deployed units.
* Conducted data audits and reconciliation efforts that resulted in a 100% accountability rate during Command Supply Discipline Program (CSDP) inspections.
* Leveraged quantitative methods and linear programming to optimize maintenance schedules and resource allocation, reducing equipment downtime and costs by 25%.
* Produced data-driven readiness reports and risk assessments to support command decisions on redeployment, logistics, and asset transfers.
* Built internal reporting tools to visualize property status, personnel assignments, and loss trends, improving command situational awareness.
* Briefed senior leadership using charts, graphs, and predictive insights to support high-stakes logistical planning and property accountability operations.
* Recognized for implementing a scalable and replicable data tracking framework still used by follow-on units.

# ANDREW KALOTAY ASSOCIATES INC. – New York, NY 2006 – 2013

# Fixed Income Analyst

* Built and maintained quantitative pricing models for fixed income securities using Option-Adjusted Spread (OAS) frameworks, supporting real-time valuations across diverse bond instruments.
* Delivered daily pricing on over 4,000 agency securities, applying statistical modeling, scenario simulations, and cash-flow projections to inform institutional trading decisions.
* Conducted intra-day pricing research on Muni ETFs, identifying pricing inefficiencies through time-series analysis and contributing to model enhancements for bond valuation accuracy.
* Developed and validated Excel-based calculators and data tools, including a municipal refunding optimization model later published by Bond Buyer for use by public finance professionals.
* Partnered with investment banks and advisory firms to provide data-driven insights on municipal and utility bond structures, supporting high-stakes debt management strategies.
* Executed risk modeling (duration, convexity, key rate analysis) and delivered insights on interest rate sensitivity to inform asset-liability management decisions.
* Translated complex quantitative outputs into stakeholder-facing reports, supporting both regulatory compliance and strategic investment decisions.

# Financial Software Developer

* Developed and deployed custom analytical software solutions to support fixed income pricing, bond analytics, and debt optimization, integrating Excel, Visual Basic, and proprietary libraries such as BondOAS.
* Engineered tools to convert callable yield curves into bullet equivalents, significantly improving modeling precision and efficiency for portfolio and risk teams.
* Led the design of modular valuation tools, supporting real-time pricing workflows, compliance checks, and dynamic portfolio simulations.
* Collaborated with quants and analysts to implement automated financial calculators for price-yield conversion, spread analysis, and risk measurement—accelerating reporting turnaround for institutional clients.
* Contributed to the transition from legacy spreadsheets to maintainable, production-grade models, enabling greater scalability and version control.
* Applied data validation and regression testing frameworks to ensure integrity across pricing outputs and financial assumptions.
* Provided technical documentation and user training to support enterprise rollout of analytics tools across investment advisory teams.

# Data Analyst

* Analyzed over 1.8 million municipal bond trade records to test and improve the robustness of proprietary tax-exempt pricing systems; performed large-scale data cleansing, aggregation, and pattern analysis.
* Conducted time-series and statistical analysis to forecast forward exchange rates using 3+ years of historical trade and rate data.
* Retrieved and modeled U.S. Treasury rates from 1960–2012 to independently validate portfolio performance assumptions and long-term yield projections.
* Utilized Excel, VBA, and SQL to build custom reporting tools and automate manual analysis pipelines, significantly reducing turnaround time for internal research and external client reports.
* Produced structured datasets and backtesting frameworks to support the development of OAS-based valuation models and refunding calculators.
* Collaborated with quantitative research leads to identify pricing anomalies and liquidity trends, contributing to strategic improvements in model logic and calibration routines.
* Supported data-driven decision-making through rigorous data profiling, model diagnostics, and exploratory analysis of bond market behavior.

# NEW YORK UNIVERSITY, SCHOOL OF ENGINEERING – Brooklyn, NY 2002 – 2006 Department Coordinator

* Coordinated over 300+ tutoring sessions and academic support schedules each semester, optimizing instructor coverage and room assignments through manual and semi-automated planning tools.
* Taught undergraduate mathematics review sessions, enhancing student retention and performance in calculus, linear algebra, and statistics courses.
* Directed a team of peer tutors and aligned resources to match demand across STEM departments, resulting in a 25% reduction in resource overhead and improved student-to-instructor ratios.
* Assisted faculty in preparing course assessments, grading rubrics, and compliance-aligned documentation to support academic standards and accreditation requirements.
* Maintained internal databases for attendance tracking, grade monitoring, and tutor performance analytics, supporting data-informed decision-making for departmental improvements.
* Contributed to faculty onboarding and supported special academic projects requiring quantitative planning and scheduling.

# EDUCATION / CERTIFICATIONS

**Bachelor of Science** | Mathematics | Statistics & Financial Modeling Concentration | New York University Tandon School of Engineering | Brooklyn, NY | Cum Laude 2005 Graduate

**Master of Science** | Mathematics | University of Colorado Colorado Springs | Colorado Spring, CO | 2018 Graduate **CompTIA Security+** | 2022

**Cisco Certified Network Associate** | 2021 **Virtual Hacking Lab Penetration Testing Course** | 2021 **Actuary** | 2006

# AWARDS

Distinguished Graduate U.S. Army Cyber School | Army Achievement Medal, U.S. Army (4) | Dean’s List, New York University (5) | Cum Laude, New York University | Outstanding Graduate Student