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# PROFESSIONAL SUMMARY

Innovative and mission-focused Data Scientist with over 16 years of experience driving actionable insights across national security, financial, and healthcare domains. Adept at unlocking value from structured and unstructured data using advanced machine learning, natural language processing, and AI-driven solutions. Proven success in leading data science initiatives that turn complex datasets into meaningful intelligence, supporting decision-making in high-stakes environments.

Equipped with deep expertise in Python, scikit-learn, PyTorch, SQL, and data visualization frameworks including Power BI, Tableau, and Seaborn. Recognized for developing scalable models and systems for operational readiness, cyber defense, and predictive analytics. Strong track record of collaborating with cross-functional teams to translate business questions into robust analytical solutions. Holds a Master’s in Mathematics bringing disciplined problem-solving and leadership from military and intelligence missions.

# 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