KEVIN JOY

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QUALIFICATIONS SUMMARY

- Accomplished Financial Data Analyst and Cost Estimator with 15+ years of experience evaluating the financial health of major defense contractors and Naval programs.
- Expert in aggregating and analyzing complex financial data, building predictive models, and leveraging machine learning techniques to inform strategic decision-making.
- Trusted advisor to the Assistant Secretary of Navy for Financial Management, regularly briefing Senior Executives and Flag Officers on financial risks, market conditions, and budgetary forecasts.
- Skilled in financial risk assessment, integrating economic trends, and providing data-driven insights to optimize decision-making

EXPERIENCE HIGHLIGHTS

NAVAL COST AGENCY (NCA), Washington, DC **JULY 2010 – PRESENT**
Deputy Branch Head Cost and Data Analysis Support, GS 15 (1515), 40 hours per week | 2021 – PRESENT
Senior Operations Research Analyst, GS 13 – GS 14 (1515), 40 hours per week | 2014 – 2021
Junior Operations Research Analyst, GS 7 – GS 12 (1515), 40 hours per week | 2010 – 2014

- **Promoted from Intern to Deputy Branch Head** within 8 years, demonstrating exceptional leadership and analytical capabilities.
- Developed highly credible and authoritative Department of the Navy (DoN) Independent Cost Estimates (ICE) and Component Cost Positions (CCP) for major DoN Acquisition programs in preparation for Milestone decisions.
    - Conducted comprehensive financial risk assessments, incorporating market conditions and industrial base analysis to ensure fiscal responsibility.
    - Over 10 years of experience estimating the cost of multi-billion dollar Naval programs to include Aircrafts, Ships, Ground Vehicles, Missiles, Radars and Defense Business Systems.
    - Led high-performing teams to develop cost models, analyze risk tolerance, and assess the long-term financial impact of acquisition programs.
    - Built financial dashboards and interactive visualizations using QLIK, and Python to support real-time decision-making.
    - Established data pipelines to aggregate and clean large, disparate datasets, enabling more accurate financial forecasting and reporting.
    - Applied advanced statistical and machine learning models (Random Forest, Elastic Net Regression, XGBoost) to predict program costs and assess financial risk.
    - Advised senior leadership on cost estimation, financial projections, and budget allocations, ensuring data-driven and fiscally responsible decision-making.
- Spearheaded the development and execution the Navy's 30-year budget forecast, influencing enterprise-wide financial strategy for over $200 billion in annual assets and personnel.
    - Designed a comprehensive financial model used by senior leaders in OPNAV staff to assess long-term budget sustainability and resource allocation.
    - Regularly briefed and counseled three-star Admirals, providing critical financial insights that directly informed recommendations to the Chief of Naval Operations (CNO).
    - Developed a scenario-based budgeting framework, enabling senior decision-makers to evaluate trade-offs and optimize funding priorities.
    - Automated the data pipeline to refresh financial data and predictive models using Databricks, S3 buckets, and cloud-based storage solutions, ensuring real-time updates for decision-makers.

EDUCATION

Graduate Certificate, Data Science, Naval Postgraduate School, Monterey, CA, 2020
- Areas of Study: Cyber Data Management, Machine Learning and Data Mining

Masters of Science, Operations Research, Kansas State University, Manhattan, KS, 2014
- Areas of Study: Decision Making with Uncertainty, Network Flows and Graph Theory, Advanced Engineering Economy, Stochastic Applied Processes and Theoretical Simulation, Normative Theory of Decisions and Games, Linear Programming, Integer Programming and Combinatorial Optimization

Bachelors of Science, Operations Management, University of Maryland, Robert H. Smith School of Business, College Park, MD, 2010
- Areas of Study: Lean Six Sigma, Calculus I, Micro Economics, Macro Economics, Managerial Accounting, Marketing, Project Management, Supply Chain Management, Introduction into Optimization

TECHNICAL SKILLS

- **Financial & Data Analysis:** Cost Estimation, Risk Modeling, Economic Forecasting
- **Programming & Analysis**: Python, R, SQL, VBA
- **Data Visualization & BI**: Power BI, QLIK, Tableau, Shiny, DASH Apps, Holoviews (Panel Apps)
- **Machine Learning**: scikit-learn (Random Forest, Elastic Net, XGBoost), PyTorch (neural networks)
- **Generative AI:** HuggingFace (transformers), LangChain
- **Cloud & Platforms**: Databricks, AWS
- **Software Tools**: ACEIT, JMP, Microsoft Office, Git, LINGO, Palisade Decision Tools Suite

PROJECT INSIGHTS

- **Rapid Turnaround Cost Model**: One of my most impactful projects involved developing a rapid-turnaround long-range forecasting tool for Navy senior leadership, designed to optimize future fleet architecture and acquisition planning. As part of the process, we developed a proposal by accurately estimating effort, schedule and performance of the development tool. The initial release featured 30+ Cost Estimating Relationships (CERs) and Excel Macros, allowing for rapid updates via a User Form. Recognizing the need for scalability and automation, I transitioned the model to Databricks on AWS, leveraging SQL, Python (PySpark), and automated data pipelines to integrate live datasets and export predictions to Delta tables. This transformation enabled advanced analytics far beyond Excel's capabilities, incorporating Machine Learning techniques such as test, train, validate splits, Random Forest, XGBoost, Penalized Linear Regression (Lasso, Ridge, ElasticNet) to enhance forecasting accuracy. Ultimately, the tool has automated nearly all analysis tasks into a fully Python-based model with a QLIK dashboard, providing real-time insights and greater transparency.
- **Escalation Calculator:** Developed and implemented an advanced escalation calculator using open-source data from FRED, integrating a web application with automated data pipelines connected to BLS and BEA data. Utilized Python to build time series forecasting models and create custom escalation indices for cost analysis and market research. This tool enhances project efficiency by saving time for analysts, increasing projection accuracy, and minimizing overrun risks. Additionally, the tool is comparable, and in some cases outperforms popular proprietary solutions in escalation forecasting, potentially reducing the organization's reliance on subscription-based tools.
- **Selected Acquisition Report Dashboard**: The Cost Estimating Reliability Dashboard analyzed over a 100 Major Defense Acquisition Programs to determine cost and schedule uncertainty and identify key indicators of a program success. Many challenges were solved in this project by While many cost research projects provide value they typically live inside a report "locked" in time, this project automates the data analysis pipeline to automatically update the analysis to keep the analysis accurate with minimal intervention from the maintainer.
- **RDT&E Phasing**: Analyzed several analogous programs EVM data using non linear optimization algorithm to solve for the Weibull distribution parameters that best predicts future outlays.

- **Cost and Schedule Estimating Suite**: Developed Excel based Add-In and user defined functions to allow cost and schedule as well as over 20 productivity tools to include an advanced traceback navigator, WBS generation and summing algorithms and more to save analysts time.
- **PyCostTools**: Developed Python based library that provides a framework for cost estimates within the Python Ecosystem to include a custom code to simulate analysis based on the SciPy library. This library has many productivity tools help the analyst from analyzing the data using Sklearn and integrate model into the cost model, run a Monte Carlo simulation and easy creation of a Web based interface to interact with the model.
- **Generative AI Proof Of Concept:** Developed Retrieval-Augmented Generation using HuggingFace ecosystem and LLAMA 3.3 that allows users to upload and have "conversations" with their data. This proof of concept application is useful for documents that open source LLMs are not trained on or have sensitive information that should not be exposed to the internet.

AWARDS & CERTIFICATIONS

- 2024 ASN FM&C Employee of Quarter 2
- 2019 Naval Center for Cost Analysis Senior Analyst of the Year
- 2017 Naval Center for Cost Analysis Analyst of the Year
- DAWIA Level III Certification, Business Cost Estimating (BUS-CE), 2017
- John Hopkins University Data Science Specialization Certificate, 2019