OSMAN ZAKARIA, PMP

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PROFESSIONAL SUMMARY

Analytics professional with a Master's in Analytics and PMP certification, with over six years' experience in payroll, operational and research analysis. Extract and transform data from multiple databases using SQL and Python, build Power BI and Tableau business intelligence dashboards and develop predictive, classification and risk-scoring models that identify anomalies, trends and control gaps. Design automated data-quality checks that support continuous monitoring and translate findings into written reports and actionable recommendations for technical and non-technical audiences.

CORE SKILLS & COMPETENCIES

- SQL (Joins, CTEs, Windows)
- Python (pandas, NumPy)
- Power BI (DAX) & Tableau
- Task Automation
- Data Visualization
- ETL Pipelines & Automation
- Extract & Transform Data
- Relational Data Modeling
- Data Analytics
- Predictive Analytics
- Machine Learning
- Risk Scoring
- Anomaly Detection
- Statistical Analysis & Sampling
- Trend Analysis & Forecasting
- Business Intelligence
- Quantitative Methods
- Qualitative Research
- Audit-Style Testing
- Continuous Monitoring
- Data Quality & Reconciliation
- Root-Cause Analysis
- Control Gap Identification
- Reports & Documentation
- Actionable Recommendations
- Stakeholder Engagement
- Project Management

Technical Toolkit: SQL (PostgreSQL, MySQL, SQLite) | Python | Power BI | Tableau | Excel | Microsoft 365 | Azure | SPSS

PROJECTS

Site Safety Early Warning: Construction Injury Risk Model

- Zone-level model forecasting which area of a construction site is most likely to injure someone in the next five workdays. On 39,990 held-out zone-days across 30 sites, the top-risk band (9% of zone-days) carried 3.5x the event rate and captured 31% of incidents, AUC 0.754 against a 0.662 crew-size baseline. Calibrated to WorkSafeBC, AWCBC and Statistics Canada data on real Environment Canada weather; site logs are simulated. View analysis

Canada Post Turnaround Analytics: Cost and Churn Models

- Modelled a $487M annual cost saving across 1,646 postal areas from Census and address-register data, ranked areas by priority, and built an early-warning churn model for business customers. View analysis

Change Orders: Federal Contract Cost-Growth Risk Model

- Risk model on 351,872 federal contracts: reviewing the riskiest 10% of new awards catches 39% of those that later grow 25% or more, 3.9 times better than chance. Logistic regression tested on a held-out two-year period, benchmarked against gradient boosting. View analysis

Automated Data-Quality Pipeline, 4.1M+ Records

- Reproducible Python and SQL pipeline over 4.1M+ records with 12 automated data-quality checks; reconciled all 96 published figures against the source authority and surfaced a ranking that reverses under like-for-like comparison. View on GitHub

PROFESSIONAL EXPERIENCE

AI Data Analysis Task Developer (Contract) | Handshake AI, Remote **Sept 2026 – Present**

- Review AI-generated analyses against source data and rubric criteria, tracing errors such as incorrect denominators and misleading pooled comparisons to root cause.
- Write requirements, specifications and reference solutions for expert-level data-analysis tasks, to documented quality standards.

Research Analyst | (Centre for Democratic Innovation) | Participedia **Dec 2024 – Present**

- Built a CatBoost-XGBoost classification ensemble on 2.26K+ cases, reaching 76% accuracy against a ~52% baseline, and forecast volumes through 2030.
- Build Power BI reports and dashboards to share results with research partners, and use SQL, Excel, and AI tools (Claude, Gemini, ChatGPT) to analyze data and troubleshoot pipelines.
- Maintain business definitions, validation checks, and documentation across multi-source datasets, and prepare clean, documented datasets for accurate, repeatable reporting.

Teacher & Educational Project Coordinator | Ghana Education Service, Accra, Ghana **Sept 2017 – Aug 2023**

- Trained 50+ staff on data tracking and reporting, improving workflow efficiency by 30% and cutting performance-review cycles by 10 days.

Payroll Project Coordinator | Controller and Accountant General's Department | Accra, Ghana **Sept 2014 – Aug 2017**

- Analyzed 600,000+ payroll records in IPPD2 (Oracle), designing repeatable audit tests that found anomalies, duplicate records and internal control gaps leading to US$1.3M in annual savings.
- Reconciled records across systems, investigated exceptions to root cause, and supported a World Bank-sponsored migration of salary validation to electronic processing.

RESEARCH & PUBLICATIONS

- **Predictive ensemble framework for institutional governance | Taylor & Francis —** submitted Sept 2026, under review
- **Leveraging AI and Big Data for African Tax Reform | Global Conference Alliance Inc. —** accepted Mar 2025

EDUCATION

Master of Professional Studies in Analytics | Northeastern University, Canada **Sept 2023 – Dec 2024**
BSc. Business Administration | Kwame Nkrumah University of Sc. & Tech., Ghana **Aug 2010 – Jun 2014**
Diploma in Basic Education | Tumu College of Education, Ghana **Aug 2005 – Jul 2008**

PROFESSIONAL CERTIFICATION

Project Management Professional (PMP) | Project Management Institute (Cert No.: 4224251) **Oct 2025**

ADDITIONAL TRAINING AND CERTIFICATION

Advanced First Aid (OFA Level 3) | Trauma Tech **2026**
AI in Action – Applying AI Technologies to the Workplace | Northeastern University **2024**
Leadership Certificate of Completion | Graduate Leadership Institute, Northeastern University **2024**