

Dr. Yousif Alhashmi, PhD

Director | AI Scientist

Dubai, UAE

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EXECUTIVE PROFILE

Director-level AI Scientist with 15+ years of experience designing, deploying, and governing machine learning systems across education, finance, and regulated environments. PhD-qualified with deep expertise in statistical modelling, NLP, model validation, class imbalance mitigation, and production ML lifecycle management. Architect of AI systems operating on terabyte-scale, multi-source datasets, integrating structured, unstructured, and multimodal data directly into backend production environments. Proven ability to translate advanced analytics into measurable engagement, operational efficiency, and strategic decision support. Combines executive accountability with hands-on Python implementation.

CORE EXPERTISE

- Machine Learning (Supervised & Unsupervised)
- Statistical Modelling & Hypothesis Testing
- Natural Language Processing (TF-IDF, Dense Embeddings)
- Feature Engineering & Dimensionality Reduction
- Class Imbalance Mitigation (Class Weighting, SMOTE, Threshold Optimisation)
- Model Validation (Cross-Validation, Early Stopping, Holdout Testing)
- Bias–Variance Optimisation
- Drift Detection & Model Monitoring
- Production ML Deployment & Rollback Strategies
- Real-Time & Batch Data Processing
- KPI-Driven Analytical Strategy

Technologies:

Python (Pandas, NumPy, Scikit-learn), SQL, Git, Power BI, Tableau, AWS, Azure

PROFESSIONAL EXPERIENCE

ASI (Artificial Specialized Intelligence) — Dubai, UAE

Director & AI Scientist | 2023 – Present

- Lead AI strategy and execution across a national ed-tech platform serving 300,000+ users with sustained 70% retention.
- Designed and operationalised ML pipelines processing terabytes of structured, conversational, financial, and multimodal lecture data (text, audio, visual).
- Built classification, forecasting, and NLP models using a structured baseline-to-complexity methodology (logistic regression → ensemble models → deep learning), optimising bias–variance trade-offs and cost efficiency.
- Structured datasets into training, validation, and fully isolated holdout sets to prevent leakage and ensure unbiased performance evaluation.
- Evaluated models using Accuracy, Precision, Recall, F1, ROC-AUC (classification) and RMSE/MAE (regression), aligning optimisation with defined business risk thresholds.
- Addressed severe class imbalance using class weighting and SMOTE (k-nearest neighbour–based synthetic interpolation) across structured features and vectorised text embeddings.
- Integrated ML outputs directly into backend systems with scheduled batch retraining during maintenance windows and controlled parallel deployments.
- Implemented gradual feature rollouts and monitored live system logs, traffic behaviour, and user feedback to validate production stability.
- Established drift monitoring protocols tracking feature distribution shifts and rolling performance degradation; executed controlled rollback to last stable model when deviation exceeded thresholds.
- Conducted exploratory data analysis across diverse domains including curriculum analytics, AI-student interactions, billion AED investment datasets, and biological health data.

SARA Group Holdings — Dubai, UAE

Senior Data & Analytics Advisor | 2022 – Present

- Designed predictive analytics and segmentation models across multi-location retail and FMCG operations.

- Developed demand forecasting and optimisation models using structured transactional datasets.
 - Delivered executive dashboards translating complex analytics into actionable KPIs for capital allocation and operational planning.
 - Conducted ROI-driven statistical analysis supporting strategic investment decisions.
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Independent Data Science Consultant — USA / UAE
Data Scientist | 2018 – 2022

- Designed and implemented machine learning solutions for public-sector and regulated environments.
 - Conducted end-to-end ML lifecycle execution: EDA, feature engineering, model training, hyperparameter optimisation, and validation.
 - Applied cross-validation, early stopping, and structured experimentation to ensure generalisation performance.
 - Developed modular Python-based analytical frameworks for reusable deployment.
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Virginia Commonwealth University — USA
Appointed Instructor (Graduate-Level) – Text Analytics | 2022

- Selected and formally approved to deliver a graduate-level Text Analytics course within the School of Business.
 - Designed full syllabus, case studies, and applied Python-based analytics curriculum covering supervised and unsupervised modelling.
 - Developed assessment framework emphasising model evaluation and performance interpretation.
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EDUCATION

PhD, Business Information Systems — Virginia Commonwealth University, USA
MS, Information Systems Technology — George Washington University, USA
MA, Human Resource Management — Catholic University of America, USA

BS, Business Administration (Information Systems & Marketing) — American University,
USA

CERTIFICATIONS

CIO University – Federal Executive Competencies

NSTISSI-4011 – Information Systems Security

CITI – Research Ethics & Compliance