- A H M E D N A B I L A T W A -

Lecturer & Data Scientist Researcher
At Computing and Information Technology at AAST

Edku, El Behiera, Egypt • (20) 111 042 0702 • dr.ahmedna.ai@gmail.com • linkedin.com/in/ai-ahmed/

A strong academic background has been developed through experience as a Lecturer and Researcher in mathematics, Big Data Analytics, and Information Systems. Expertise in financial datasets, quantitative models, and machine learning is utilized to optimize trading and investment decisions. Skills in strategic planning and data science are applied to deliver impactful results through market analysis and advanced techniques. Innovation in financial algorithms and strategies has been achieved, enhancing profitability and investment foresight. An interdisciplinary knowledge base has been applied to drive innovation in financial technology following a successful transition from business development to data science and AI research.

PROFESSIONAL EXPERIENCE

CCIT, AAST, Alexandria, Egypt• *Lecturer*   Sep/2022 - Present
- ➢ **Enhanced Curriculum Development**: Led the enhance of the Information Systems & Big Data Analytics curriculums, resulting in a 25% increase in student engagement and improved learning outcomes.
- ➢ **Student Success Initiatives:** Implemented targeted academic support programs, fostering a more inclusive and supportive learning environment.
- ➢ **Strategic Educational Initiatives:** Implemented data-driven teaching methodologies, improving the overall effectivenes.

Upwork, Remote • *Data Scientist | AI Research Engineer*   Jul/2021 - Present
- ➢ **Advanced Conversational AI Solutions:** Developed a revolutionary RAG system for job management using Dynamic Prompting Engineer (DPE), enhancing task management efficiency by 40% and improving user satisfaction.
- ➢ **E-commerce Innovation:** Created a GPT-4 and CLIP modeling-based conversational chatbot for the shopping experience, integrating a text-to-image vector search system within Pinecone, which increased customer engagement and conversion rates by 30%.
- ➢ **Cutting-edge Research Contribution:** Pioneered the Contrastive Learning with Time-series project, identifying key dataset characteristics and improving predictive accuracy, leading to a 20% enhancement in model performance and attracting significant industry attention.

Beauty On-Demand, Cairo, Egypt • *Business Development Manager*   Mar/2018 - May/2021
- ➢ **Revenue Growth:** Drove significant business growth by developing and executing strategic initiatives, resulting in a 35% increase in revenue over three years.
- ➢ **Product Database Creation**: Led the creation and management of a comprehensive database with over 1,000 product entries, enhancing operational efficiency and improving product availability by 20%.
- ➢ **High-Quality Product Presentation**: Produced high-quality product images for over 11,000 items using advanced Excel, VBA, and Photoshop techniques, improving the online shopping experience and increasing customer satisfaction by 25%.
- ➢ **Vendor Engagement:** Provided accurate and detailed information for over 10,000 digital products to vendors, strengthening vendor relationships and improving product delivery times by 15% (Souq.com, Jumia.com).

Sephora-Toi, Cairo, Egypt (Remote) • *Business Information Systems*   Oct/ 2016 - Feb/2018
- ➢ **Digital Product Innovation:** Created over 2,000 digital products, expanding the company's product portfolio and contributing to a 30% increase in digital sales

EDUCATION

Master Degree in Enhanced Information Systems • Computing and Information Technology, Arab Academy for Science, Technology & Maritime Transport, Abo-Kir, Alexandria, Egypt
Graduation Year: *2024* (Oct 2022 — Present)
Specializing in Stochastic Optimization and Machine Learning in Finance

Bachelor's Degree in Information Systems (Minor Computer Science) • Computing and Information Technology, Arab Academy for Science, Technology & Maritime Transport, Abo-Kir, Alexandria, Egypt
(Sep 2015 — Jul 2019)
Graduated with Excellent with honors (GPA 3.44)

CERTIFICATES & COURSES

Google Cloud, Google, *Professional Machine Learning Engineer*	Sep/2021 – Jan/2022
edX IBM, edX, *Python Data Science*	Sep/2020 – May/2021
EMC Education Services, Dell, *Academic Associate, Data Science and Big Data Analytics*	Sep/2018 – Jan/2019
The Institution of Engineering and Technology, Athens, Greece, *PATW Certificate 2019*	2019
PAWT certificate for Winning PATW Egypt Best Presenter and joining the Finals in Greece in 2019	
Shaw Academy, Shaw Academy, *Diploma in Digital Marketing*	Aug/2017
Shaw Academy, Shaw Academy, *Careers*	Aug/2017
Shaw Academy, Shaw Academy, *Leadership and Managements*	Aug/2017
Shaw Academy, Shaw Academy, *Fundamentals of Investments*	Sep/2016

INTERNSHIPS

iSmileTechnologies, Chicago, U.S. • *Data Scientist Intern (Remote)*   Aug/2021 - Jan/2022
- ➢ Developed an automated time-series machine learning system for stock movement prediction, significantly enhancing forecasting accuracy and operational efficiency.
- ➢ Integrated earnings forecasting capabilities, resulting in a 20% improvement in financial analysis and investment decision-making processes.

PUBLICATIONS

Atwa, Ahmed, Sedky, Ahmed, & Kholief, Mohamed. (2024). Probabilistic PCA in High Dimensions: Stochastic Dimensionality Reduction on Sparse Multivariate Assets' Bars at High-Risk Regimes. Available at SSRN: https://ssrn.com/abstract=4874874 or http://dx.doi.org/10.2139/ssrn.4874874.

RESEARCH & OPEN-SOURCE PROJECTS

PPCAx – Probabilistic PCA with JAX
- ➢ Developed a scalable PPCA model for high-dimensional financial data, enhancing feature extraction and portfolio analysis during high-risk market conditions.
- ➢ Implemented efficient computation using JAX, suitable for large-scale financial datasets.
- ➢ Repos: https://github.com/AI-Ahmed/ppcax

Reinforcement Learning in Finance with JAX
- ➢ Implementations from NumPy to JAX of Financial Markov Frameworks, improving computational efficiency.
- ➢ Repos: https://github.com/AI-Ahmed/rl-finapp

Contrastive Learning with Time-series
- ➢ Enhanced predictive accuracy by 20% through time-series contrastive modeling.

Published Linguistical Similarity Model with PyTorch
- ➢ *Advanced NLP capabilities with a model based on the GLUE QQP dataset.*
- ➢ *Repos: https://huggingface.co/AI-Ahmed/deberta-v3-base-funetuned-cls-qqa*