ELDIN ŠAHBAZ

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SUMMARY

Accomplished data scientist with four years of progressive professional experience in a multinational company. Proven ability to plan and lead projects, design experiments, analyze time series and signals, conduct algorithmic research and development in machine learning and artificial intelligence, and communicate insights to stakeholders. Successfully enhanced mass spectrometry signal quality and automated a critical step in mass spectrometry manufacturing — reducing signal error by 21% and projecting annual cost savings in excess of $500k, respectively.

PROFESSIONAL EXPERIENCE

Research & Development Engineer   June 2018 - Present
INFICON   *Syracuse, New York*

· Reported on data science initiatives directly to the Senior Director of Engineering for Intelligent Sensor Solutions.
· Operated 100% remotely, both locally and while travelling internationally, for over 50% of employment duration.
· Completed 11 studies and projects — leading and scoping data science efforts in cross-functional environments.
· Conducted basic research for legacy systems, supported literature searches, and facilitated technical reviews.
· Audited sensors via simulation studies and A/B tests using statistical sampling, nonlinear dynamical systems analysis, and hypothesis and combined probability testing — covering 58% of chemical detectors and gas analyzers.
· Improved mass spectrometry sensor performance and signal quality via numerical optimization, statistical signal processing, and time series analysis techniques — yielding a 21% reduction in signal estimation error.
· Developed a mass spectrometry computational sensor calibration algorithm via curve modeling, time series analysis, and nonlinear dynamical system analysis techniques — projecting annual cost savings in excess of $500k.

Research Experience for Undergraduates (REU)   June 2017 - August 2017
Syracuse University ⋄ Data Lab   *Syracuse, New York*

· Conducted research under the supervision of Dr. Reza Zafarani (Electrical Engineering and Computer Science).
· Formulated a repeated measures experiment — querying structured and unstructured social media content.
· Modeled the expected number of views for social media content via an ensemble of boosting classifiers.

PROJECTS

Cryptocurrency Analysis   *Time Series Modeling and Analysis (MAS 777)*
Syracuse University

· Identified cryptocurrency pairs of interest via non-parametric correlation analysis and linear regression.
· Tested for unit roots and cointegration; visualizing ACF, PACF, and CCF plots — surveying variables of interest.
· Assessed and interpreted ARIMAX and VECM model fits via AIC estimates, BIC estimates, and residual analysis.

EDUCATION

Syracuse University   *May 2021*
Non-matriculated Graduate ⋄ Mathematics

Syracuse University   *May 2018*
Master of Science ⋄ Computer Science

Syracuse University   *May 2017*
Bachelor of Science ⋄ Computer Science   Summa Cum Laude

SKILLS & COMPETENCIES

Programming Languages	Python, MATLAB, SQL, C++
Software & Tools	PyTorch, Scikit-learn, Statsmodels, Pandas, SciPy, NumPy, Matplotlib, Linux, Git
Competency Areas	AI, Deep Learning, Machine Learning, Statistical Learning, Linear & Nonlinear Modeling, Regression, Classification, Statistics, Probability, Time Series Analysis, Statistical Signal Processing, Data Analysis, Data Mining, Data Visualization