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.
· Applied expertise to modeling complex chemical processes via gas chromatography and mass spectrometry data.
· Completed 11 studies and projects — leading and scoping data science initiatives in cross-functional environments.
· Conducted global presentations and counseled R&D teams — facilitating literature searches and technical reviews.
· Collaborated with stakeholders to elucidate research objectives and directions from high-level problem statements.
· Interfaced with scientists and engineers to develop and integrate algorithmic research into existing technologies.
· Supported product development efforts — conducting basic research and establishing performance benchmarks.
· Audited system performance via simulation studies — covering 58% of chemical detectors and gas analyzers.
· Devised a mass spectrometry A/B model test — quantifying a 56% difference between legacy model test results.
· Improved mass spectrometry sensor performance and signal quality with a 21% reduction in estimation error.
· Developed a computational sensor calibration algorithm — 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

· Surveyed variables of interest — testing for unit roots and cointegration; visualizing ACF, PACF, and CCF plots.
· 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