

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

INFICON

June 2018 - Present

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.
- 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.
- Supported product development efforts — conducting basic research and establishing performance benchmarks.
- Interfaced with scientists and engineers to develop and integrate algorithmic research into existing technologies.
- 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.
- Automated sensor calibration via computational optimization — projecting annual cost savings in excess of \$500k.

Research Experience for Undergraduates (REU)

Syracuse University ♦ Data Lab

June 2017 - August 2017

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

Syracuse University

Time Series Modeling and Analysis (MAS 777)

- Surveyed variables of interest — testing for unit roots and cointegration; visualizing ACF, PACF, and CCF plots.
- Assessed the quality of ARIMAX and VECM model fits via AIC estimates, BIC estimates, and residual analysis.
- Collaboratively interpreted statistical models, documented relevant findings, and presented this study's results.

EDUCATION

Syracuse University

Non-matriculated Graduate ♦ Mathematics

May 2021

Syracuse University

Master of Science ♦ Computer Science

May 2018

Syracuse University

Bachelor of Science ♦ Computer Science

May 2017

Summa Cum Laude

SKILLS & COMPETENCIES

Programming Languages Python, MATLAB, SQL

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