

ELDIN ŠAHBAZ

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SUMMARY

Accomplished data scientist with more than three 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 artificial intelligence and machine learning, and communicate insights to stakeholders. Applied expertise in modeling complex chemical processes via chromatography and mass spectrometry data. Successfully improved mass spectrometry signal quality — reducing error by 21%.

PROFESSIONAL EXPERIENCE

Research & Development Engineer
INFICON

June 2018 - Present
Syracuse, New York

- Reported on data science initiatives directly to the Senior Director of Development for Intelligent Sensor Solutions.
- Investigated and applied expertise to mass spectrometry sensor data for system and manufacturing processes.
- Conducted global presentations and counseled R&D teams — facilitating literature searches and technical reviews.
- Supported product development efforts — conducting basic research and establishing performance benchmarks.
- Lead and planned data science initiatives in a cross-functional environment — completing 10 studies and projects.
- Collaborated with stakeholders to elucidate research objectives and directions from high-level problem statements.
- Coordinated with physical scientists to integrate domain expertise into the experiments and predictive models.
- Interfaced with software engineers to facilitate migrating algorithmic research and findings to 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.
- Developing parameter optimization techniques for quadrupole mass filters — projecting ~\$500k annual savings.

ACADEMIC APPOINTMENTS

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 expected content attention — minimizing dimensionality while maximizing the cross-validation score.

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

PROFESSIONAL DEVELOPMENT

Linux Foundation
Linux Kernel Internals and Development (LFD420)

December 2019

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