

# ELDIN SAHBAZ

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## SUMMARY

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Recognized data science leader generating quantifiable business results in cost reduction, profitability improvement, and process optimization — delivering innovative patent pending AI-powered solutions. Demonstrated experience scoping and leading projects, designing robust unbiased studies and experiments, analyzing time series and signals, composing custom machine learning and artificial intelligence models/algorithms, interfacing with cross-functional teams and communicating insights to stakeholders, and deploying models to production.

## PROFESSIONAL EXPERIENCE

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### Data Scientist

*INFICON*

June 2018 - Present

*Syracuse, New York*

- Directed significant technical advances in manufacturing optimization for semiconductor sensor technologies via machine learning for time series utilizing Scikit-learn, fastDTW, Statsmodels.tsa, SciPy.stats, SciPy.interpolate, and SciPy.optimize — driving automation efforts with projected annual cost savings in excess of US\$500k.
- Led technical reviews to define mathematical foundations for sensor processing algorithms — documenting their premises and implementation logic, designing an A/B test using SciPy.stats and Nolds, and delivering an improved algorithm using SciPy.optimize and Statsmodels — yielding a 21% increase in sensor accuracy.
- Managed studies examining and establishing theoretical foundations for chemical detection and monitoring systems — contributing to high-priority product development efforts expected to yield 52% revenue growth.
- Established KPIs and executed simulation A/B tests via synthetic chemical data utilizing PySwarms, SciPy.optimize, SciPy.stats, and SciPy.integrate — yielding 50% coverage across chemical detection/monitoring systems.

### 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).
- Modeled the expected number of views for social media content via an ensemble of boosting classifiers.

### Undergraduate Assistant

*Syracuse University*

January 2017 - May 2017

*Syracuse, New York*

- Held routine office hours for *Programming Languages: Theory & Practice (CIS 352)*.

### Software Engineer

*Self-employed Contractor*

June 2015 – September 2015

*Syracuse, New York*

- Sub-contracted on document management systems for government clients and a Forbes Global 2000 client.

### Undergraduate Research Assistant

*Syracuse University | The Hosein Research Group*

August 2014 - May 2015

*Syracuse, New York*

- Conducted research under the supervision of Dr. Ian Hosein (Biomedical and Chemical Engineering).
- Awarded the Dean's Leadership Award in support of ambitious undergraduate research endeavors.
- Quantified energy loss on solar cell surfaces via wave propagation models that simulate light trajectories.

## PATENTS & PUBLICATIONS

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### Method of Auto Tuning One or More Sensors

*U.S. Patent and Trademark Office*

August 2022

*Patent Pending*

## INVITED PRESENTATIONS

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|   |               |
|---|---------------|
| <b>Data Science for the Mass Spectrometer</b><br><i>INFICON Data Analytics Summit</i>   | November 2020 |
| <b>Get Started with Machine Learning and AI</b><br><i>INFICON Data Analytics Summit</i>   | November 2020 |
| <b>Automatic Text Summarization — Deep Learning &amp; Classical Approaches</b><br><i>Syracuse University iSchool Poster Session</i> | April 2018    |
| <b>Characterizing Popularity Growth of Social Media Content</b><br><i>Electrical Engineering &amp; Computer Science REU Seminar</i> | August 2017   |

## PROFESSIONAL DEVELOPMENT

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|---|---------------|
| <b>Linux Kernel Internals and Development (LFD420)</b><br><i>The Linux Foundation</i>                 | December 2019 |
| <b>Machine Learning Workshop — Model Predictive Control &amp; Process Analytics</b><br><i>INFICON</i> | June 2019     |
| <b>Embedded Linux Development with Yocto Project (LFD460)</b><br><i>The Linux Foundation</i>          | June 2018     |

## HONORS & AWARDS

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|---|------------------------|
| <b>Graduate Merit Scholarship</b><br><i>Syracuse University</i> | August 2017 - May 2018 |
| <b>Summa Cum Laude</b><br><i>Syracuse University</i>            | May 2017               |
| <b>The Warren Semon Prize</b><br><i>Syracuse University</i>     | May 2017               |
| <b>Dean's Leadership Award</b><br><i>Syracuse University</i>    | September 2014         |
| <b>Dean's List</b><br><i>Syracuse University</i>                | August 2014 - May 2017 |
| <b>The Founders' Scholarship</b><br><i>Syracuse University</i>  | August 2014 - May 2017 |

## EDUCATION

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|   |                                    |
|---|------------------------------------|
| <b>Syracuse University</b><br><i>Master of Science   Computer Science</i>   | May 2018                           |
| <b>Syracuse University</b><br><i>Bachelor of Science   Computer Science</i> | May 2017<br><i>Summa Cum Laude</i> |

## SKILLS & COMPETENCIES

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|------------------------------|---|
| <b>Programming Languages</b> | Python, MATLAB, R, SQL, C++   |
| <b>Software &amp; Tools</b>  | PyTorch, Scikit-learn, Statsmodels, Pandas, SciPy, NumPy, Linux, Git  |
| <b>Competency Areas</b>      | AI, Deep Learning, Machine Learning, Statistical Learning, Linear & Nonlinear Modeling, Numerical Optimization, Regression, Classification, Statistics, Probability, Time Series, Statistical Signal Processing, Data Analysis, Data Mining |