

# ELDIN SAHBAZ

Syracuse, New York, USA

+1 (607) 597-9607 | sahbaz.eldin@gmail.com

eldin.home.blog | linkedin.com/in/eldinsahbaz | github.com/eldinsahbaz

## SUMMARY

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Data science leader with 6 years of experience generating quantifiable business results in cost reduction 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 patent pending advances in manufacturing optimization for semiconductor sensor technologies via machine learning for time series utilizing PyTorch, Scikit-learn, fastDTW, Statsmodels.tsa, SciPy.stats, SciPy.interpolate, and SciPy.optimize — driving automation 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 Grant 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> <i>INFICON Data Analytics Summit</i>	November 2020
<b>Get Started with Machine Learning and AI</b> <i>INFICON Data Analytics Summit</i>	November 2020
<b>Automatic Text Summarization — Deep Learning &amp; Classical Approaches</b> <i>Syracuse University iSchool Poster Session</i>	April 2018
<b>Characterizing Popularity Growth of Social Media Content</b> <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> <i>The Linux Foundation</i>	December 2019
<b>Machine Learning Workshop — Model Predictive Control &amp; Process Analytics</b> <i>INFICON</i>	June 2019
<b>Embedded Linux Development with Yocto Project (LFD460)</b> <i>The Linux Foundation</i>	June 2018

## HONORS & AWARDS

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

## EDUCATION

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

## SKILLS & COMPETENCIES

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<b>Software &amp; Tools</b>	Python, PyTorch, Scikit-learn, Statsmodels, Pandas, SciPy, NumPy, NLTK, Gensim, OpenCV, Nolds, Seaborn, Matplotlib, NetworkX, billiard, ctypes, 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