

ELDIN SAHBAB

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SUMMARY

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

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

Method of Auto Tuning One or More Sensors

U.S. Patent and Trademark Office

August 2022

Patent Pending

INVITED PRESENTATIONS

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

PROFESSIONAL DEVELOPMENT

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

HONORS & AWARDS

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

EDUCATION

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

SKILLS & COMPETENCIES

Programming Languages	Python, MATLAB, R, SQL, C++
Software & Tools	PyTorch, Scikit-learn, Statsmodels, Pandas, SciPy, NumPy, Linux, Git
Competency Areas	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