

# Sina Bahrasemani

Data Scientist . Machine Learning Developer . Computational Physicist

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## Summary

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Experienced Data Scientist, Machine Learning Developer, and Computational Physicist, with a strong background of working in large teams and international collaborations like ATLAS Experiment at [CERN](#) (world leader in nuclear and high energy physics research); Highly skilled in Deep Learning, Machine Learning, Big Data, Cloud Computing, and Python, C++, and database Query Programming languages.

## Selected Work Experience

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**Senior Data Scientist** at Teck Resources Limited | 2020–

- Building end to end safety and optimization mining solutions
- Developing and deploying highly scalable, accurate and efficient deep learning models
- Building large-scale mixed integer programming (MIP) optimization models
- Supporting team members and continuous engagement with stakeholders to ensure efficiency in design, rollout and sustainability of the products

**Data Scientist** at CERN & SFU | 2016–2019

- Leading a team of about twenty researchers
- Analyzing Petabytes of proton-proton collision data from CERN to search for rare particle physics processes

**Machine Learning Developer** at CERN & SFU | 2014–2019

- Developing state of the art Machine Learning software (Tree-based models and Deep Neural Networks) to reconstruct elementary particles properties in search of new physics
- Leveraging *Scikit-learn*, *Keras*, *PyTorch*, *TensorFlow*, *TMVA* and other ML libraries, to build shared solutions for the entire CERN organization.

## Education

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**Ph.D in Experimental Particle Physics** | 2014–2019

*Simon Fraser University (supervisor: Prof. Dugan O'Neil)*

**Master's Degree in Theoretical Physics** | 2011–2014

*Sharif University of Technology*

## Selected Technical & Software Skills

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- Programming Languages: *Python*, *C/C++*, *SQL*
- Deep Learning Frameworks: *TensorFlow*, *Keras*, *PyTorch*
- Machine Learning Frameworks: *scikit-learn*, *sparkml*, *TMVA*
- Data Science Libraries: *pandas*, *numpy*, *matplotlib*, *plotly*, *scrapy*, *opencv*, etc.
- Data Engineering Frameworks: *Spark*, *Airflow*, *Docker*
- Cloud Services: *Azure*, *GCP*, and *AWS*

## Professional Training and Certificates

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- Deep Learning AI Specialization @ deeplearning.ai
- Azure Data Science Path @ microsoft
- MLOps Specialization @coursera
- Scaled Agile Framework (SAFe®)
- Python/C++ Programming @ MITX & MicrosoftX
- Machine Learning @ StanfordX & SFU

## Publications

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- Citations: 29714 | h-index: 96 | i10-index: 303
- [Google Scholar](#)