# NIKOLA KUZMIC

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## SKILL HIGHLIGHTS

- **Data Science:** Python, Scikit-Learn, Data Cleaning, ETL, NLP, GIS, Bokeh, TensorFlow, Tableau
- **Deployment:** Flask, Docker, Git, Postgre/MySQL, Linux, AWS, GCP, Hadoop, Spark
- **Front-end:** HTML, CSS, JavaScript, Bootstrap

## PROFESSIONAL EXPERIENCE

**Data Scientist, EnergyX Solutions Inc., Toronto** Jan. 2019 - Present

Built **end-to-end ML pipelines** capable of recommending personalized house renovations and predicting associated energy savings for homeowners across Canada and the United States as an alternative to traditional in-person energy audits:

- Researched and implemented state-of-the-art **ML techniques**
- Cleaned and preprocessed disorganized numerical and textual open-source data using **Pandas**
- Led numerous iterations of model development and hyperparameter tuning using **Scikit-Learn**
- Deployed models into production on **AWS** using Flask
- Utilized **Gitflow** in pipeline version control
- Created interactive dashboards of the customer and regional energy savings using **Tableau** and **Bokeh**
- Performed advanced **SQL** queries in generating business insights
- Implemented and managed data flow pipelines between internal **API**s and client **MySQL** databases.

**Mathematical Modeller / Graduate Research Assistant**, IBMT Laboratory, University of Toronto 2016 – 2018

- Developed and implemented mathematical models of blood vessel growth in Python.
- Successfully modelled endothelial cell behaviour under chemical stimuli using differential equations.

**Python Programming Teaching Assistant**, University of Toronto 2017 – 2018

- Delivered tutorials and assisted students with the programming assignments in Introduction to Programming and Applied Mathematics courses.

## EDUCATION

**Self-Learning**, Coursera 2018 – Present

- **Machine Learning**
- Introduction to Data Science in Python
- Data Visualization with Python
- Databases and SQL for Data Science
- Python Classes and Inheritance
- **Introduction to Git and Github**

- **Google Cloud Platform Fundamentals: Core Infrastructure**
- AWS Fundamentals
- Financial Markets
- Natural Language Processing Specialization.

**Master of Applied Science**, Mechanical Engineering, University of Toronto 2016 – 2018
- Honours: NSERC – Canada Graduate Scholarship, MASc – Entrance Award, GPA: 3.7/4.0
- Relevant Coursework: Introduction to Data Science and Analytics, Machine Learning

**Bachelor of Engineering**, Mechanical Engineering, Ryerson University 2012 – 2016
- Honours: The Canadian Society for Mechanical Engineering (CSME) Gold Medal, GPA: 4.1/4.3
- Relevant Coursework: Linear Algebra, Calculus I/II, Statistics, Numerical Analysis, Differential Equations, Economics

## VOLUNTEERING

**General Associate, Ontario-on-a-Chip Symposium, Toronto** 2016 – 2018

Involved in the development and maintenance of the Ontario-on-a-Chip Symposium website using WordPress, financial planning, and event organizing.

## JOURNAL PUBLICATIONS

- **Kuzmic, N.**, Moore, T. A., Devadas, D., & Young, E. W. K. (2019). Modelling of endothelial cell migration and angiogenesis in microfluidic cell culture systems. *Biomechanics and Modeling in Mechanobiology*. 18(3):717-731. Link.
- **Kuzmic, N.**, Law, Y. L. E., & Dworkin, S. B. (2016). Numerical heat transfer comparison study of hybrid and non-hybrid ground source heat pump systems. *Applied Energy*, 165, 919–929. Link.