NIKOLA KUZMIC

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SKILL HIGHLIGHTS

- **Data Science:** Python, Scikit-Learn, Data Cleaning, ETL, NLP, Bokeh, TensorFlow, Tableau
- **Deployment:** Flask, Docker, Git, SQL, Linux, AWS, Jenkins, Airflow, JIRA
- **Front-end:** HTML, CSS, JavaScript, Bootstrap

PROFESSIONAL EXPERIENCE

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

Built **end-to-end Machine Learning (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 **(Time Series, Regression, Boosted Methods)**
- Cleaned and preprocessed disorganized numerical and textual open-source data using **Pandas**
- Led numerous iterations of model development and hyperparameter tuning using **Scikit-Learn**
- Performed **hypothesis testing** in assessing the model performance against the industry-standard methods
- Deployed models into production on **AWS** using Flask and optimized pipeline design for **scale**
- Utilized **Gitflow** in pipeline version control and implemented **PEP8 standards** and **unit tests**
- Created interactive dashboards of the customer and regional energy savings using **Tableau** and **Bokeh**
- Performed advanced **SQL** queries on large customer databases in generating business insights
- Implemented and managed data flow pipelines between internal **API**s and client **MySQL** databases
- Collaborated with the Product Team in performing **A/B testing** and optimized the pipeline based on user feedback.

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

Implemented open-source computational biology software to enable researchers to reduce costs and improve the design of microfluidic devices.

- Leveraged University of Oxford open-source cancer environment simulator through **Python object-oriented infrastructure**
- Implemented a popular open-source FEniCS framework for simulating coupled differential equation systems through **Docker Containers** and Python
- Coded and deployed an in-house MATLAB simulator, with mathematical models in the back-end, to enable researchers to identify optimal experimental conditions and microfluidic device configurations.

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

- Building Containerized Applications on AWS
- Natural Language Processing Specialization (In progress)
- Databases and SQL for Data Science
- Introduction to Git and Github
- Machine Learning

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, as well as 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.