# SUMMARY OF QUALIFICATIONS

* More than 3 years of experience in Statistical Analysis, Business Intelligence, Machine Learning, Predictive Modelling, Advanced Optimization, and Data Management.
* Highly proficient in R, (My)SQL, Python, and Java.
* Strong background in mathematics especially Statistics and Operations Research.
* A Hardworking and team-player individual.

# EXPERIENCE

**Data Analyst, Children’s Hospital of Eastern Ontario (CHEO)** Ottawa, ON, Aug. 2020 - Present

* Leverage R, python, and SQL to connect to various datasets and handle large volumes of unprocessed data. Responsible for data cleaning, transformation, processing, etc.
* Implement a wide range of predictive models using Supervised and Unsupervised Learning, Time Series Analysis, and Simulation modeling.
* Use R and python to apply a variety of statistical methodologies to large datasets to help decision makers. Methodologies including statistical tests, regression models, ANOVA, and descriptive statistics.
* Design multiple visualizations and dynamic dashboards using Shiny and MS Power BI.
* Responsible for setup and maintenance of RStudio Workbench on Linux for a team of 20 data scientists.
* Saved hours of manual work by designing automated reporting tools that automatically download and clean data, generate reports, and send them to stakeholders.

**Data Science Researcher, MET Lab** Ottawa, ON, Sep. 2018 - Aug. 2020

* Applied advanced Machine Learning and Stochastic Optimization to business problems to help non-technical managers and decision-makers.
* Designed multiple resource allocation models using advanced data analytics techniques.
* Developed reproducible code to generate publication-ready plots and visualization for fellow scientists.

**Data Analyst, Bruyère Long-term Care** Ottawa, ON, May 2019 - Aug. 2019

* Designed and communicated multiple dataset creation plans for extracting data from large provincial datasets.
* Developed Statistical Analysis Plans for multiple provincial capacity planning projects.

**Data Analyst,****Refah Chain Stores** Tehran, Iran, Jun. 2016-Oct. 2016

* Conducted descriptive analysis and visualization of sales data at for one of the biggest chain store companies.
* Designed various operational dashboards and graphical reports in Tableau Software and MS Power BI.

# TOOLS & TECHNICAL SKILLS

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| ***Predictive Modeling*** | Supervised/unsupervised Learning (Linear and Logistic Regression, Support Vector Machines, Random Forests, K-Nearest Neighbors, K-Means Clustering, Hierarchical Clustering, etc.), Deep Learning, Reinforcement Learning (Markov Decision Processes and Dynamic Programming), and time series analysis (ARIMA, Holt-Winter, STL, etc.) | R (CARET, nnet, fpp, forecast, glm, keras, tensorflow), Python (Sci-kit learn), Java |
| ***Natural Language Processing*** | Sentiment analysis, text mining (tokenization, part-of-speech tagging, lemmatization & stemming, stop word removal, etc.), text classification, word clouds | R (tidytext, tm, stringr, wordcloud, keras, tensorflow, RBERT) |

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| ***Data Management*** | Data wrangling, processing, cleaning, and transformation, feature engineering, missing value analysis, outlier detection, date and time operations. Relational Database Management. | R (dplyr, Lubridate, stringr), MySQL, python (Pandas), SAS |
| ***Data Analysis*** | Parametric and non-parametric tests, regression models (Linear, Logistic, Poisson, Neg. Binomial, Spline, and Non-linear), correlation analysis, survival analysis | R (glm), MySQL, python, SAS, MS Excel |

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| ***Optimization*** | Linear/non-linear Programming, Heuristics, Stochastic Optimization | CPLEX, GAMS, Open Solver |
| ***Data Visualization*** | Statistical graphs, visualizations, reports, and interactive dashboards | R (Shiny, Markdown, ggplot), Python (Matplot), MS Power BI,  Tableaus Software |
| ***Programming Language*** | Object Oriented Programming, Algorithm Implementation | Java, Python |
| ***Process Modelling*** | Process Flow Design, Use-cases | MS Visio, visual Paradigm |
| ***Version Control*** | Version control and simultaneous coding | Git, SVN |
| ***Operating Systems*** | System administration and maintenance | Windows, Linux |

# Publications

**S. Dehnoei**, A. Saure, O. Ozturk, W. Gardner, K. Pajer, R. Sheppard, and Jonathan Patrick. (2021). *A  
stochastic optimization approach for staff scheduling decisions at inpatient units*. Submitted to International Transactions in Operations Research.

Buttle, S. G., Muir, K., **Dehnoei, S.**, Webster, R., & Tu, A. (2022). *Referral practices for epilepsy surgery in pediatric patients: A North American Study*. *Epilepsia*, *63*(1), 86-95.

# EDUCATION

**Master of Science in Management (Operations Research), Telfer School of Management (CGPA: 9.2/10)**

**Ottawa, ON 2018-2020**

**Relevant Courses:** Advanced forecasting for Management, Applied Probability, Integer Programming

**Bachelor of Science in Industrial Engineering, Sharif University of Technology**

**Relevant Courses:** Advanced Statistics, Probability Theory and its Applications, Statistical Quality Control, Operations Research I & II, Computer Information Systems, Management Information Systems, System Dynamics, Decision Theory, Project Management, Calculous I & II, Differential Equations