# Arhum Ahmad

Software Developer and Data Scientist

Recent University of Toronto graduate with a demonstrated history of experience in data science, machine learning and statistical research.


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## EDUCATION

### University of Toronto

Honours Bachelor of Science: Computer Science & Statistics

*Courses*

- Neural Networks and Deep Learning
- Design and Analysis of Experiments
- Software Design
- Linear Algebra
- Machine Learning
- Survey, Sampling and Observational Data in Statistics
- Methods of Data Analysis
- Probability and Statistics

## PROFESSIONAL EXPERIENCE

### Software Developer

Distrotek

*04/2022 - Present*

*Front end web development lab*

*Responsibilities and Achievements*

- Working with a variety of front-end programming languages such as HTML and CSS to develop interactive and engaging websites for clients and consumers.
- Using databases to derive data insights for strategic decision-making and project planning.
- Communicate with clients to determine the best design and implementation approach on a case by case basis.

### Data Analyst

Data Glacier

*06/2021 - 10/2021*

*Data Lab*

*Responsibilities and Achievements*

- Collected, monitored and analyzed big data to determine sales trends for clients and their organizations
- Developed visuals for big data using data visualization tools such as R and Seaborn
- Developed predictive models for real estate trends using Scikit-Learn
- Deployed machine learning models to industry using Flask

## RESEARCH PROJECTS

### Statistical Analysis of Transportational Methods of Students at the University of Toronto

*Collaborated with a team of researchers to conduct a study on preferred methods of transportation for university students. Gathered and analyzed data to prepare for a formal report and presentation, including data visuals.*

### Experimental Analysis of Variables Impacting Preparation Time of Rice

*Collaborated with a team of researchers and data scientists to determine the variables that impact the total cooking time of rice. Gathered experimental data to analyze and visually present using R.*

## SKILLS

Collaboration | Communication | Agile Methodology | Problem Solving | Time Management | Initiative | Analytical Thinking

## PERSONAL PROJECTS

### Playoffs Prediction Model

- Used Selenium in Python to scrape 29 years-worth of NBA game statistics.
- Cleaned data using Pandas libraries.
- Used Scikit-Learn logistic regression libraries to train the model and achieve almost 80% accuracy on over 100 test cases.

### Convolutional Neural Network for Image Matching

- Designed and built a convolutional neural network (CNN) to predict similarities of images of pair-wase objects to detect, using collected crowdsourced data as input.
- Built multiple networks to analyze differences in predictions based on number of channels, layers, kernel sizes, etc.
- Batch training and optimization implemented.

### Text Denoising Autoencoder for News Headlines

- Advanced use of deep learning on a natural language processing task involving news headlines.
- Uses Recurrent Neural Networks (RNNs), and autoencoder and decoder, word embeddings, and teacher-forcing methods to learn from hundreds of thousands of news headlines and generates realistic headlines as outputs.

## PROGRAMMING LANGUAGES

Python
*Full Professional Proficiency*

HTML
*Full Professional Proficiency*

R and R Studio
*Full Professional Proficiency*

C#
*Full Professional Proficiency*

Java
*Professional Working Proficiency*

## TECHNICAL FRAMEWORKS & SKILLS

TensorFlow | PyTorch | Scikt-Learn | Machine Learning and Neural Networks | Web Scraping | Data Analysis and Cleaning