

# Herleen Kaur Sanhotra

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## EDUCATION

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**Master of Science**, Computer Science Aug 2019 - May 2021  
**University of North Carolina at Charlotte**, NC **GPA: 4.0**  
Relevant Coursework: Machine Learning, Natural Language Processing, Big Data Analytics, Knowledge-Based Systems(Google Cloud)

**Bachelor of Engineering**, Computer Engineering Aug 2013 - May 2017  
**University of Mumbai**, India **GPA: 3.7**  
Relevant Coursework: Data Warehouse & Mining, Database Management Systems, Artificial Intelligence, Data Structure & Algorithms

## PROJECTS

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**Text Summarization on Amazon Food Reviews** Sept 2020 - Dec 2020

- Built an abstractive text summarizer to create summaries of 600,000 reviews on **Google Colab** with a **GPU** environment
- Leveraged **Natural Language Toolkit** for preprocessing the text data, significantly reducing the noisy data by 68%
- Developed a multilayer **LSTM** model with an attention mechanism to remove limitations of long sentence sequences

**Face Mask Detection on Image Dataset** Sept 2020 - Dec 2020

- Built a Face Mask Detector using a deep learning **Convolutional Neural Network(CNN)** model
- Optimized the model by adding additional input facial features to improve the detection of the face on the input images
- Tested the model's ability to classify a person wearing a face mask in real-time using **OpenCV**

**Prediction of Severity of Traffic Accidents in the US** Jan 2020 - May 2020

- Led a team of five to build a real-time prediction system that can be used to determine accident-prone areas based on factors such as time, weather, and location using **Python** for data preprocessing and **Google Cloud Platform** for modeling
- Trained a machine learning classification model that gave an ROC-AUC score of 0.98 and a precision of 86.96%

**Data Analysis on Student Alcohol Consumption** Jan 2020 - May 2020

- Conducted exploratory data analysis on secondary school students data to understand various social and economic factors leading to alcohol consumption using **Python** libraries such as **Matplotlib** and **Seaborn**
- Calculated feature importance to find out the top 5 variables impacting the target variable using **Random Forest Classifier**

**Walmart Store Sales Forecasting** Aug 2019 - Dec 2019

- Led a team of four to forecast weekly sales by building six different regression models(**Linear, Ridge, Lasso, Elastic-Net, Decision Tree & Random Forest**) and comparing their performance using metrics R2 score and Root Mean Square Error
- Established **CRISP-DM** framework to plan different phases of the project and assess various challenges during each phase

## TECHNICAL SKILLS

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- 2 years of experience in **Python** programming language for data analysis and building machine learning models
  - Proficient in Python libraries: **Pandas, Numpy, Matplotlib, Scikit-Learn, Seaborn, Natural Language Toolkit, and Keras**
  - Ability to clean, preprocess, transform and visualize different kinds of datasets using **Jupyter Notebook**
  - Good understanding of relational database(**MySQL**) and ability to write queries in **Structured Query Language(SQL)**
  - Sound knowledge in working with cloud technologies **Google Cloud Platform(GCP)** and **Google Colab**
  - Working knowledge of web technologies **HTML, CSS, and PHP** for frontend development

## EXPERIENCE

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**Trainee Programmer**, Infinite IT Solutions Pvt. Ltd, India Mar 2018 - Sept 2018

- Gathered client requirements and identified ways to improve the design and development of an existing website
- Collaborated with the UI developer for updating different GUI components of the website using **HTML** and **CSS**

## LEADERSHIP EXPERIENCE

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**General Secretary, IEEE**, Branch Code 02461, Mumbai, India Aug 2016 - May 2017

- Responsible for conducting meetings, planning and organizing technical events for 100-200 college student participants

**Managing Director, Women In Engineering(WIE)**, Mumbai, India Aug 2016 - May 2017

- Increased the female volunteers and members in the organization by approximately 5 times the initial participation