# **Shyam Adhikari**

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#### **EDUCATION**

#### **University of New Mexico**

Expected Graduation Date: May 2021

Bachelor of Mathematics with a concentration in Applied Mathematics | Minor: Chemistry | GPA: 3.99

Baltimore City Community College, General Engineering

July 2017 - Nov 2018

Western Illinois University, Engineering Technology

Jan 2017 - May 2017

**Relevant coursework:** Linear Algebra with Applications, Numerical Computing, Applied Matrix Theory, Calculus I -III, Ordinary Differential Equations, Elements of Math Statistics and Probability, Vector Analysis, and Programming Fundamentals.

#### **TECHNICAL SKILLS**

Programming Languages: Python, MATLAB, Octave, JavaScript, Html, and CSS

**Skills:** Data Analysis, Machine Learning, Deep Learning, Natural Language Processing, and Data Science **Tools:** Scikit-Learn, TensorFlow, PyTorch, Git/GitHub, Google Cloud Platform, and Google Colaboratory

#### PERSONAL PROJECTS

## Facebook Friend Recommendation (https://github.com/adshyam/Facebook Friend Recommendation)

- Developed a machine learning model that predicts if given pair/pairs of nodes [friends] have a connection.
- Utilized Sklearn, Pandas, and NumPy libraries for data pre-processing and visualization using data exploratory techniques.
- Achieved F1 score of 0.801136 on test data applying XGBoost and F1 score of 0.80414 on test data using Random Forest machine learning algorithm.

### Diabetes Prediction ( https://github.com/adshyam/Diabetes Prediction Machine Learning-)

- Developed a machine learning model to predict the probabilities of a person having diabetes.
- Applied Random Forest Classifier algorithm and achieved an accuracy score of 0.793 applying hyperparameter tuning using a randomized search cross- validation method.
- Created a web application for this project using Django and Python.

# Quora Question Similarity Problem (https://github.com/adshyam/Quora-Question-Similarity)

- Worked with TF\_IDF text vectorization and learned the concept of Bag of Words.
- Applied Random Forest Classifier algorithm to predict if given pairs of Quora a question are similar or not.
- Achieved accuracy score of 0.99 with a log loss of 0.00025.

## Hyperbolic Partial Differential Equation ( https://github.com/adshyam/Hyperbolic Partial Differential Equation )

• Implemented an explicitly finite difference and center difference algorithm using MATLAB to solve wave equation problems.

## **PROFESSIONAL EXPERIENCE**

## Tutor, Department of Mathematics, University of New Mexico

May 2019 - Present

Tutored Calculus I- III, Linear Algebra, Ordinary Differential Equations, Statistics 345, Physics I-II, General Chemistry-II
Organic Chemistry I-II, MATLAB, and Python.

#### Teaching Assistant, Engineering Student Success Center, University New Mexico

May 2020 - August 2020

• TA for MATLAB and pre-calculus for high school and college students.

#### LEADERSHIP, ACADEMIC AWARDS AND HONORS

Amigo Scholarship, University of New Mexico

January 2019 - Present

• President, Baltimore City Community College Mathematics and Engineering Group

July 2018 - Nov. 2018

• 1<sup>st</sup> place, Intercollege Mathematics competition, Mu Alpha Theta

September 2018