

# ADITYA MATHUR

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## Education

**THE UNIVERSITY OF TEXAS AT DALLAS**, Richardson, Texas  
Master of Science in Computer Science, **GPA 3.44/4**

Expected May 2021

**GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY**, Delhi, India  
Bachelor of Technology in Computer Science and Engineering, **GPA 8.32/10**

May 2019

## Work Experience

**Software Engineer Intern**, Defense Research and Development Organization, Delhi, India Jun2017 – Aug 2017  
Worked in Defense Terrain and Research Laboratory on implementation of Multi Criteria Decision Analysis in Java using Euclidean distance method and also built an android application for the same.

## Academic Projects

### Multi-Dimensional Search

Implemented a search algorithm like the ones used in e-commerce websites, having thousands of products with unique ID, price and description of its own. Organized the data using TreeMap and obtained insertion, deletion, searching, modifications and sorting operations using HashMap and TreeSet. The algorithm performs said operations on hundreds of thousands of entities within seconds.

### Stock Exchange Web Application

Created a stock exchange web application that allows users to buy and sell stocks. Developed a scalable 3-tier responsive web application based on SOA principals. Also developed backend RESTful APIs for stock trading, user profile management and bank transactions. Made asynchronous AJAX calls to Stock brokerage web services for fetching data.

Skills used: HTML, CSS, Ajax, PHP, JavaScript, jQuery

### B+ Tree Indexing

Implemented B+ Tree Indexing that reads a text file containing data and builds the index, treating first n characters as the key. The program supports basic functions like creating an index file, finding a record by the key, inserting new text record and list sequential records.

Skills used: C++

### Library Management System

Created a Java based GUI application for library management system to maintain records of book issue, book return from student, Stock Maintenance, Catalog and book search to be computerized. The GUI of application was made using Swing framework and the data was maintained in a MySQL database.

Skills used: Java, Swing, MySQL

### Comparing accuracy of SVM, CNN and ANN on an Image Dataset

Compared the accuracy of SVM, CNN and ANN to identify human emotions on Kaggle fer 2013 dataset. Results obtained showed that CNN has the highest accuracy of 91%. Further optimized the parameters of learning model and achieved high accuracy of up to 94%.

Skills used: Python, Machine Learning, SVM, ANN, CNN

### Multi Criteria Decision Analysis using Euclidean Distance Method

Built an application that uses Euclidean distance method for multi criteria decision analysis. The application provides best outcome out of all possible outcomes depending on multiple variables.

Skills used: Java, Android, XML

## Computer Skills

Languages	: Java, C++, C, Python
Web Technologies	: HTML, XHTML, CSS, Bootstrap, PHP, AJAX, JavaScript
Operating Systems	: Windows, Linux, MS DOS
Databases	: SQL, MongoDB
Frameworks & Tools	: React, Node.js, jQuery, Bootstrap, OpenCV, Keras, Git