

# AHNAF FARHAN

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[github.com/Rownak](https://github.com/Rownak)

## EDUCATION

PhD in Computer Science

University of Texas at El Paso

Aug 2017 – Present

- CGPA: 3.91
- Expected graduation in May 2022

BSc. in Computer Science & Engineering

Shahjalal University of Science & Technology

Jan 2011 – Aug 2015

- CGPA: 3.60

## EXPERIENCE

Computer Vision

Researcher at Discovery Analytics Lab ( University of Texas at El Paso )

Aug 2018 – Present

El Paso, Texas

- Developed low dimensional contextual vector representations of visual objects from video data. A single hidden layer neural network is utilized to optimize the proposed objective function.
- Development Environment:** Python, Keras, tensorflow, Scikit-learn, YOLOv4.
- We have achieved **0.56** cluster consistency score on COCO dataset and **0.66** system-human correlation score on Scene250 dataset.
- Our Object embeddings model can be used in contextual object detection, video summarization, ads placement in video, event categorization and prediction.
- Research work is submitted on IEEE Big-Data 2020.

Natural Language Processing

Researcher at Discovery Analytics Lab ( University of Texas at El Paso )

Aug 2017 – Present

El Paso, Texas

- Developed contextual temporal word embeddings using diffusion to capture long and short-term shifts of word's context over time.
- A Neural Network with single hidden layer is trained using our proposed objective function that incorporates temporal tf-idf of words.
- Development Environment:** Python, Tensorflow, SciSpacy.
- Capturing evolution of words over time will allow us to work on prediction models such as news-events prediction, stock market prediction, etc.
- Research work is submitted on IEEE Big-Data 2020.

Search Engine

Software Engineer at Chorki

Sep 2015 – Apr 2016

Dhaka, Bangladesh

- Build a customized search engine for product and news search.
- Development Environment:** Java, Servlet, Apache Nutch, Apache Solr.

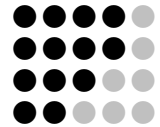
## TECHNICAL SKILLS

C/C++, Java, Python

TensorFlow, Keras

Oracle 10g, MySQL

Android, Servlet, JSP, Git



## PROJECTS

SUST Backgammon

- Developed a Backgammon game in Java using Minimax Algorithm and Java Swing.
- Source Code: [https://github.com/Rownak/SUST\\_BackGammon](https://github.com/Rownak/SUST_BackGammon)

Clustering Stackoverflow User

- Developed StackoverflowMining in Java using Knn which can recommend similar users of the StackOverflow website depending on the programming language usage and debugging queries.
- Source Code: <https://github.com/Rownak/StackOverflowMining>

Document Similarity and Plagiarism Finding

- Developed plagiarism finder in Java to track similarity between students assignment using Term-Document frequency.
- Source Code: <https://github.com/Rownak/DocumentSimilarityFinding>

Tourist Friend

- Developed an android app to help tourists find popular tourist spots, pictures, and general information of the venue.
- Development Environment:** Android, Servlet, and Hibernate.
- Source Code: <https://github.com/sajjadIslam2619/TouristFriend>

## ACTIVITIES

- Member of Upsilon Pi Epsilon since 2019.
- President of Muslim Students Association (UTEP) since 2019.
- Served as secretary of Bangladesh Students Association (UTEP) from 2018-2019.

## PUBLICATIONS

- "Diffusion-Based Temporal Word Embeddings". (submitted for publication).
- "VizObj2Vec: Visual Object embedding". (submitted for publication).
- A technical report on "Why Max and Average Poolings are Optimal in Convolutional Neural Networks", 2018.
- "An efficient way for segmentation of Bangla characters in printed document using curved scanning," ICIEV, 2016.