

AVIA ANWAR

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RESEARCH INTERESTS

Knowledge Graph, Graph Neural Network, Machine Learning, Deep Learning, Internet of Things, Incremental Learning, AI, Smart Constructs

EXPERIENCE

Data Driven Cyber Physical Systems Lab (DDCPS) *Graduate Research Assistant*
Working on knowledge graphs, graph neural networks, and ontology. *August 2023 - Present*
Under the mentorship of Dr.Gabe Fierro

AdvancePro *Software Engineer*
Project contributed: **Supply Chain Solutions** *April 2023 - July 2023*
Responsibilities include development, create, integrate, and use API services.

Flora Systems Limited *Software Engineer*
Project contributed: **Core Banking System** *May 2022 - March 2023*
Responsibilities include design, development, code review and maintenance of the project. Create, integrate, and use API services. Test, requirement analysis and documentation.

ACADEMIC CREDENTIALS

Ph.D. in Computer Science *GPA: 3.75/4.00*
Colorado School of Mines *August, 2023 - On going*

Bachelor of Computer Science and Engineering *GPA: 3.14/4.00*
East West University *January, 2017 - December, 2021*
Major: Software Engineering

RESEARCH EXPERIENCE

Graduate Research Work *In Progress*
Colorado School of Mines
Research Title: **"Ontology-Aware GNN Models for Knowledge Graph Completion in Building Domains"**

Conference Paper *BuildSys 2024 - In Submission*
Colorado School of Mines
Research Title: **"An Ontology Prototype for Water Treatment Systems"**

Undergraduate Research Work *May 2021 - December 2021*
East West University
Thesis Title: **"Road Accident Severity Prediction of Bangladesh Using Incremental Learning"**

Undergraduate Case Study *January 2020 - April 2020*
East West University
Study Title: **"Online Gaming Addiction Among Bangladeshi Youth: A Case Study From Gamers' Perspectives"**

PROFESSIONAL SKILLS

Programming Languages Python, SQL, Bash, C/C++, C#, PHP ,Java, Javascript, HTML
Python Packages Pandas, RDFLib, SPARQL, Numpy, Scipy, Scikit Learn, Torch

SELECTED PROJECT(S)

Development of a Deep Learning Model using Artificial Neural Network for Bank Customer Behaviour Prediction

December 2021

Developed a 3-layer Perceptron Artificial Neural Network (ANN) for predicting bank customer behavior using customer activity as features

Technologies Used: *Tensorflow, Scikit-Learn, Python*

Development of a board game with the implementation of a Decision Making AI algorithm

June 2021

Developed a board game by implementing the Minimax algorithm

Technologies Used: *.NET, OpenGL, WinAPI*

Development and Implementation of a Chess Game with Low-Level Hardware Programming in Intel 8086 processor

February 2021

Developed a chess game with low-level instructions and embedded the program into an intel 8086 microprocessor

Technologies Used: *Microprocessor, Assembly*

Development of a Discussion Forum

April 2020

Developed a Web application to discuss trending topics

Technologies Used: *PHP, MYSQL*

Development of a interactive Book Sharing Application

October 2019

Developed a complete Web-based interactive application for sharing books including member interactions and activity

Technologies Used: *NodeJS(ExpressJS), MongoDB, EJS*

AWARDS AND CERTIFICATION

BUP Career Edge 2021

Smartifier Academy

March 2021

Dhaka, Bangladesh

University Merit Scholarship

East West University

January 2017

REFERENCES

Dr. Gabe Fierro, Assistant Professor
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Colorado School of Mines
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Dr. Shamim Hasnat Ripon, Professor
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