ARMAN ASHKARI

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EDUCATION

M.Sc. in Computer Science and Engineering *2021 - 2023 (Expected)*
Bangladesh University of Engineering and Technology (BUET) *Dhaka, Bangladesh*
CGPA: 3.83 / 4.00 (Coursework completed, thesis ongoing)
Relevant Coursework: Distributed Computing Systems, High-Dimensional Data Management, Meta-Heuristics, Wireless Ad Hoc Networks, Bioinformatics Algorithms, Computational Biology.

B.Sc. in Computer Science and Engineering *2014 - 2018*
Bangladesh University of Engineering and Technology (BUET) *Dhaka, Bangladesh*
CGPA: 3.72 / 4.00

RESEARCH INTERESTS

Distributed Computing Systems, High-Performance Computing, Stochastic Optimization, Bioinformatics Algorithms, Deep Learning.

RESEARCH EXPERIENCE

Computational approaches to predict Lysine Succinylation sites using machine learning based feature selection *October 2017 - October 2018*
Undergraduate Thesis under the supervision of Prof. Dr. M. Sohel Rahman.

- Investigated the efficacy of various sequence-based features and secondary structure-based features of protein to predict Lysine Succinylation sites.
- Proposed a robust prediction scheme based on sequence-extracted and evolutionarily conserved information.

CURRENT RESEARCH PROJECTS

Hardware Trojan Detection using Meta-heuristic based Logic Testing
Required skills: C++, Python, Python/C++ interfacing, Verilog-parser.

- Employed Genetic Algorithm to generate effective test vectors to detect the presence of hardware Trojan and prevent malicious activity.
- Future expansion includes exploring other variants of Evolutionary Algorithms and Swarm Intelligence as well as incorporating more features for better quantification of fitness measures.

Community Search in Distributed Heterogeneous Networks
Required skills: Apache Spark, Scala.

- Adapted the principle of graph partitioning across several machines to find a dense sub-graph of closely related nodes around a query node (referred to as a community) in a distributed computational manner.
- Proposed distributed implementation of efficient message passing between vertices to process the query.
- Aims at harnessing the power of parallel processing and distributed storage to speed up the process.
- The proposed algorithm is to be implemented and tested in a real-world environment.

SELECTED ACADEMIC PROJECTS

Multivariate Stock Price Prediction *August 2018*
Machine Learning Project
Required Skills: Python, Keras, Tensorflow, Selenium.

- Built an RNN model with LSTM for predicting stock price trends of Dhaka Stock Exchange (DSE).

- Developed a web scrapper to obtain stock price data from 2016 to 2018, captured from DSE website.

Campus VM *July 2017*
IoT Project
Required Skills: Python.
Hardware Platform: Raspberry Pi 2

- Developed a secure cashless Vending Machine prototype with biometric identification and remote communication.

Stock Market Portfolio *July 2017*
Information System Design and Web Development Project
Required Skills: Java, JavaScript, Oracle DBMS, Selenium.

- Developed a portfolio manager to manage accounts and track stock companies of interest.

- Developed a web scrapper to obtain live stock price data from DSE website.

Remote Desktop Access *November 2015*
OOP Course Project
Required Skills: Java.

- Developed software for remote control, screen sharing, messaging, and transferring files between computers.

- Worked with Java RMI API and socket programming over TCP/IP to transfer data.

- Incorporated multi-threading in application software.

Machine Learning and Pattern Recognition Mini Projects
Data Structure and ML Algorithm Implementation

- Implemented Decision Tree (ID3), K-Nearest Neighbor, Naive Bayesian Classifiers, Artificial Neural Networks, Backpropagation algorithm, ALS Recommender algorithm, and Ensemble Learning from scratch.

AWARDS AND HONOURS

- Dean's Honor List award, BUET $\qquad$ *2014-15*

- University Stipend, BUET *2015-2018*

- Education Board Scholarship, Ministry of Education, Bangladesh *2011, 2005*

EMPLOYMENT

Titas Gas Transmission and Distribution Co. Ltd. *Dhaka, Bangladesh*
Assistant Engineer (CSE), Database and Monitoring Section *October 2021 - Present*

- Currently serving to manage, monitor, and maintain company database.

United International University *Dhaka, Bangladesh*
Lecturer, Department of CSE *September 2019 - October 2021*

- **Courses Instructed:** Introduction to Computer Science, Structured Programming Language (C), Data Structures and Algorithms, Technology and Engineering Ethics.

- Conducted lecture classes and corresponding labs, designed assignments, set exams and assigned grades.

Daffodil International University *Dhaka, Bangladesh*
Lecturer, Department of CSE *January 2019 - September 2019*

- **Courses Instructed:** Database Management Systems, Artificial Intelligence, Computer Networking Lab.

- Conducted lecture classes and corresponding labs, designed assignments, set exams and assigned grades.

- Facilitated training on Cisco Packet Tracer while administering Computer Networking Lab.