G M MASHRUR E ELAHI

(780) · 680 · 5503 ⋄ eelahi@ualberta.ca
Apt#401-10715 103 ST, NW Edmonton, Canada AB T5H 2V7
GitHub: https://github.com/mashrurelahi Linkedin: https://ca.linkedin.com/in/mashrurelahi

EDUCATION

University of Alberta, Edmonton Canada *August 2014*
MSc. in Computing Science
Overall GPA: 3.5/4.0

Khulna University of Engineering & Technology, Khulna Bangladesh *April 2009*
BSc. in Computer Science & Engineering
Overall GPA: 3.75/4.0, Class Position 2nd

EXPERIENCE

University of Alberta May 2013 - August 2014
Research Assistant *Edmonton, Canada*

- Designed an exact algorithm to find the connectivity between sensor nodes of an Underwater Wireless Sensor Network (UWSNs).
- The problem is NP-complete on general graph. So we modeled the graph as a partial k-tree to find out the exact solution.
- We use dynamic programming paradigm to solve the above mention problem.
- Our devised tree algorithm are implemented in C++ with the use of STL (Standard Template Library).

University of Alberta September 2012 - May 2014
Teaching Assistant *Edmonton, Canada*

- Courses: Introduction to Python, Security in a Network World, Computer Networks.
- Promoted to lead TA based on students evaluation and experiences.
- Introduce GUI along with command line interface to make the laboratory more interactive.
- Mainly used C++ and Java to present and solving laboratory assignment in Linux environment.

Khulna University of Engineering & Technology July 2009 - August 2012
Lecturer/Instructor *Khulna, Bangladesh*

- Courses: Data Structures and Algorithm, Computer Networks, Security in computer Networks.
- Supervise software development projects.
- Conduct theory and laboratory where student uses Java, C#, Oracle, Mysql, HTML5, PHP to complete their assignments and projects.

SELECTED PROJECTS

Google Maps API for Sewer Cleaning *July 2014*
We use Google Map API along with VB.NET Framework and XML parser. By using Java Script we requested information for route of two locations from Google API. We used XML to extract distance and duration between a number of places from the response message. We use time to complete the cleaning task and travel time to find the optimal route using an heuristic algorithm. This project was between city of Edmonton and University of Alberta.

Natural Language Identification using Bayesian Networks *April 2013*
We identified authors native language using his/her writing in second language (English). We used 10000 TOEFL essays as input which is written by the people whose native languages are Chinese, French, German, Japanese, and Turkish. We used a tool named Weka for feature extraction and different Probabilistic graphical models along with Support Vector Machine (SVM) for classification of those feature into five classes. We compare the results and our probabilistic graphical model, Baysian network was providing an 85.4% accuracy which was 0.35% better than the best existing approach and published the results in IEEE Xplore.

Recognize Bangla Character using Support Vector Machine (SVM) *December 2012*
In this project, we designed a classifier by using SVM which is able to classify handwritten Bangla Numerals. We got 10000 data and used 90% for training and 10% for testing. Our classifier was able to classify 95% of text correctly which is 2.3% better than the existing classifier. We used Matlab for implementing the SVM.

New Distributed Evolutionary Algorithm for Multi-Objective Optimization *March 2009*
We proposed a new Distributed Novel Evolutionary Strategy Algorithm (DNESA) for Multi-Objective Optimization. Our proposed DNESA applies the divide-and-conquer approach to decompose population into smaller sub-populations. We used C# multi-threading technique for implementation. We compared our results with well-known benchmark solution and for some most of the cases our algorithm provided better results. We published the work in IEEE Xplore Computer Magazine.

Design A Statistical Database for Weather Forecasting *July 2007*

We collected ten years data from a weather station and design a database by SQL server 2000. We analyzed data and designed an algorithm based on Markov model for predicting upcoming days temperature. We used VB.NET for Graphical User Interface (GUI) as front-end development along with back-end SQL.

Design and development of CSE KUET Website *July 2007*

It was a system analysis and design project. We collected and analyzed information about faculties, students and other stuffs from our department. We designed a database by MySQL which store the information and interact with the front-end. Those information were used to design and development of dynamic website using PHP and HTML5.

CERTIFICATION

Cisco Certified Network Associate(CCNA) *Version 4.0* *GPA 4.0/4.0*
Network Fundamentals: OSI Layer, Addressing the Network IPv4, IPv6, Ethernet, Cabling
Routing Protocols and Concepts: Static and Dynamic Routing,VLSM, CIDR, OSPF, RIP, EIGRP
LAN Switching and Wireless: LAN Design,Configure Switch, VLANs,VTP,STP
Accessing the WAN: Networking to WAN, PPP, Frame Relay, Network Security, ACL

TECHNICAL STRENGTHS

Software	UNIX C/C++, Visual Studio 2013, Eclipse, Netbeans
Computer Languages	C/C++, Java, C#,ASP.NET, Python,Ruby on Rail, PHP, JavaScript,Perl
CMS	Drupal, CakePHP.
Protocols & APIs	JSON, CSS, TCP/IP,Google Maps API
Databases	MySQL, Oracle, Microsoft SQL
Tools	Git, Vim, Emacs
Operating System	Linux, Windows
Servers and Machine	Windows Servers, Linux Sever Machine, Network Trouble Shooting, LAN Setup