

MD KAMRUZZAMAN

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RESEARCH INTEREST

- Topological Data Analysis, Computational Biology, Life Science, High Dimensional Data Visualization, Visual Analytics.
- Parallel Computing.

EDUCATION

FALL 2015-Present **Ph.D. in Computer Science**,
CGPA: 3.85 Washington State University, Pullman, Washington, USA-99164.
Course work: Computational Genomics, Artificial Intelligence,
Machine Learning, Parallel computing.

MARCH 2004-MARCH 2009 **B.Sc. in Computer Science and Engineering**,
CGPA: 3.66 Bangladesh University of Engineering and Technology,
Dhaka, Bangladesh

PROJECTS

SPRING 2017 **Solving hiker's tour problem using integer optimization.**
There is a network of trails that possibly meet at several trail junctions. The goal of the hiker is to start at one trail junction, hike at least a minimum number of miles (say L) of trails, and return to the starting point. The hiker need not visit every trail junction, but wants to start and finish at the same point without repeating any trails.

Solving set covering problem using R

Given a set of meters and a set of poles, where each pole covers a subset of meters, our goal is to optimize the number of poles so that all the meters are still covered.

FALL 2016 **Analysis the effect of environmental conditions on crop production.**
Analysis the effect of environmental attributes on crop phenotype using Exploratory Data analysis. We presented the comparison study of phenotype under different environmental conditions using heatmap.

SPRING 2016 **Visual analytical tools for phenomics using Topological Data Analysis.**
Detect the role of environment on phenotype property using Topological Data Analysis (TDA).

Reads alignment

Align more than 900k reads to reference genome(Cherry) sequence (more than 300k long) using both approximate alignment technique(Local alignment with affine gap penalty) and exact matching technique(Suffix tree with suffix link).

Contagion node detection in large network

Detection of infected node in a human-human interaction network using page-rank and second largest eigen value.

FALL 2015 **Improve computational performance using GPU**

Split matrix into vectors and perform dot product in GPU.

Efficient soybean variety selection

Used feature selection process and forecasting methods of machine learning .

PUBLICATIONS

- **Poster**

Characterizing the Role of Environment on Phenotypic Traits using Topological Data Analysis. Presented in ACM-BCB Conference, 2016.

PROFESSIONAL EXPERIENCE

FALL 2015 - SPRING 2016 Teaching Assistant

- In both semesters, I worked as a teaching assistant in Design of Logic Circuit (EE214) course. I helped students to clarify and understand course materials. I also graded exam papers.

JULY 2010 - JULY 2015 **KBGroup UK**

- As a team member I worked on various ECommerce websites. Some of these are: CFT, Tate Ticketing, Tate Membership, DMT, Barbican, Shakespeares Globe, etc. Each website contains various functionality like membership offer, membership selling, promotional code, Special discount, multibuy, package. I also worked on Codeigniter framework. We developed a webservice to generate pdf ticket and send to customer's email as an attachment immediately after confirming the booking and the solution is on C# ASP.NET. I am familiar of iTextSharp which is used to generate PDF. I worked on various COM+ dll in both C++ and VB. Our database was MsSql and I worked on 2000, 2005 and 2008 versions.
- Last two years, I performed as a team lead in a six developers team. Some of my responsibilities but not limited to were conducting meeting with clients, understanding the requirements, analyzing project requirements and preparing details development phases and milestones, developing partial of project by coding, reviewing codes and discussing with developers about coding standard and ensuring delivery with in deadline, communicating with clients about their feedback and improving the solution based on clients response, etc. I always tried to maintain standard and quality.

MAY 2009 - JUNE 2010 **NazimCorp. Resource Gateway**

- I worked on various iOS application development projects. Our main focus was on utility based application.