CURRICULUM VITAE – KALYAN ROY

PERSONAL INFORMATION

Kalyan Roy
⚲ South Katia, Satkhira Sadar, Satkhira-9400
Bangladesh

🎂 Date of Birth : $26^{th} December, 1995$

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</> https://icpc.baylor.edu/ICPCID/UR7RDBP1AOEO

EDUCATION

BS in *Computer Science and Engineering* at **North South University**, Dhaka, Bangladesh
August, 2014 - December, 2019

WORK EXPERIENCES

Teaching Assistant (TA) at **North South University**, Dhaka, Bangladesh
January, 2019 - September, 2019

Research Assistant (RA) at **North South University**, Dhaka, Bangladesh
November, 2018 - Present

Supervised by
Dr. Ahsanur Rahman
Assistant Professor & Undergraduate Co-ordinator(CSE)
Department of Electrical and Computer Engineering
North South University
🎓 http://ece.northsouth.edu/people/dr-ahsanur-rahman

SKILLS

Operating Systems : Linux, Windows

Programming Languages : C, C++, Python, R, Java, Bash

Version Control : GIT

Database Tools : MySQL

Open Source Tools : Vim, Tmux, Valgrind, GNU profiler (gprof), GNU parallel

Office Softwares : LaTeX, Microsoft Office

Problems Solved : Around 150 problems from various Online Judge

Languages : Bangla, English

RESEARCH INTERESTS

My research interest includes - ***Algorithms, Graph Theory and Data mining***

PUBLICATIONS

Journals
- **A Step towards Information Extraction : Named Entity Recognition in Bangla using Deep Learning [Impact factor 1.851]**
  Redwanul Karim, M.A. Muhaiminul Islam, Sazid Rahman, Saif Ahmed Chowdhury, Kalyan Roy, Adnan Al Neon, Md. Sajid Hasan, Adnan Firoze, Rashedur M. Rahman
  Publisher : IOS Press
  DOI : 10.3233/JIFS-179349
  Date of Publication : 30 July 2019

Conference Papers
- **Crime Prediction Using Multiple-ANFIS Architecture and Spatiotemporal Data**
  Mashnoon Islam, Redwanul Karim, Kalyan Roy, Sadat Hossain, Saif Mahmood, Rashedur M. Rahman
  Publisher : IEEE Intelligent Systems IS'18
  DOI : 10.1109/IS.2018.8710564
  Date of Publication : 09 May 2019

PROJECTS	• **Bangla Automatic License Plate Recognition (ALPR) System** Description : *In this project, we built a system that recognizes multiple vehicles license plates at a time. It works perfectly even if the taken videos of license plates are skewed, faded and blurry and taken at night or in dark light.* Technology : *Python, PyTorch, Mask RCNN, OpenCV, CycleGAN, CNN, RNN* *January, 2019 - September, 2019* ↗
	• **A Unified Platform for Face Recognition - Deep Learning and Conventional Approach** Description : *In this project we built a unified platform for face recognition, in which several state-of-the-art deep learning and conventional models were integrated. The whole project was written in Python. Using this platform we can compare the performance of different face recognition models.* Technology : *Python, TensorFlow, OpenCV, YOLOv2* *January, 2018 - April, 2018* ↗
CURRENT ONGOING RESEARCHES	• **A Fast Algorithm to Enumerate Maximal Quasi-cliques in a Graph (Submitted in ACM SIGKDD 2021)** Description : *In our research, we are trying to solve a graph related algorithm-based problem. We are working to find the largest quasi-cliques (dense sub-graph) in a graph where the sub-graphs have a minimum density cut-off value. Such that, $density(G) \geqslant \theta$, where G is a graph (If G=(V,E) is a graph then V is a set of vertices and E is a set of edges) and θ is predetermined threshold value. For example, suppose we set the density cut-off value to 0.85, then the algorithm is to find the dense sub-graph which has at least 85% edges of a complete graph with same number of vertices. Furthermore, if a minimum number of vertex n is predetermined then the graph will start spanning from n and it will have a minimum size of n.* Technology : *C, C++, Python, Bash, NetworkX, Matplotlib, Seaborn* *October, 2018 - Present* ↗
	• **An Algorithm to Find Near Minimal Vertex-cover in a Graph** Description : *In our research, we are trying to solve a graph related algorithm-based problem. We are working to find the near minimal vertex cover in a graph in polynomial time as the optimistic solution of finding minimal vertex cover is an NP-complete problem.* Technology : *C, C++, Python, Bash, NetworkX* *June, 2020 - Present* ↗
AWARDS AND PARTICIPATION	**Participated in ICPC Dhaka Regional Site 2020** **Participated in ICPC Dhaka Regional Site 2019** **Participated in the Bangladesh Mathematical Olympiad (BdMO) National Site 2012**