Curriculum Vitae – Kalyan Roy

PERSONAL INFORMATION	Kalyan Roy 📍 South Katia, Satkhira Sadar, Satkhira-9400 Bangladesh 🎂 Date of Birth : $26^{th} December, 1995$ 📞 +8801749888998 ✉ kalyan.roy@northsouth.edu ✉ kalyanroy.sat007@gmail.com **G** [Google Scholar Profile](#) ⭘ https://github.com/kalyanroy1995 ‹/› 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 **Courses Assisted :** CSE373 : Design and Analysis of Algorithms CSE225 : Data Structures and Algorithm *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 Software :** LaTeX, Microsoft Office **Languages :** Bengali, English, Hindi, Japanese
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** *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 :** 23 December 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, OpenCV*

  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*

  January, 2018 - April, 2018 ↗

CURRENT ONGOING RESEARCHES

- **A Fast Algorithm to Enumerate Maximal Quasi-cliques in a Graph (Weak Reject, 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