Sakshar Chakravarty

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Github

EDUCATIONAL BACKGROUND

Ph.D. in Computer Science January 2021 - Present
University of California, Riverside

B.Sc.Engg. in Computer Science and Engineering July 2014 - October 2018
Bangladesh University of Engineering and Technology
CGPA 4.00 out of 4.00, ranked $\mathbf{2}^{nd}$ among a class of 126 students

Higher Secondary School Certificate June 2011 - August 2013
Jhenidah Cadet College, Jhenidah
GPA 5.00 out of 5.00

PROFESSIONAL EXPERIENCE

Lecturer at Department of CSE July 2019 - December 2020
Bangladesh University of Engineering and Technology.

Member of Bureau of Research, Testing and Consultation July 2019 - December 2020
Bangladesh University of Engineering and Technology.

Part-time Faculty at Department of CSE May 2019 - June 2019
Bangladesh University of Engineering and Technology.

Technical Consultant January 2019 - May 2019
Government Resource Planning Project (e-GRP), ICT Division, The People's Republic of Bangladesh

RESEARCH INTERESTS

- **Bioinformatics:** Genome Sequencing & Assembly, Gene Expression, Proteomics, and GWAS.
- **Machine Learning:** Prediction in Proteomics, Cancerology, and Genomics.

RESEARCH EXPERIENCE

- **A Graph Theoretic Approach for Maximizing Target Coverage using Minimum Directional Sensors in Randomly Deployed Wireless Sensor Networks**
  The number of directional sensors is minimized ensuring coverage maximization so that the energy consumption of the wireless sensor network can be reduced.
- **Multi-Objective Optimization using Evolutionary Algorithm to Estimate Species Tree from Gene Trees**
  The goal of this research is to estimate a pareto-set of species trees that will always contain at least one tree which has significantly lower FN-rate than the species trees estimated by the known single-objective optimization tools such as ASTRAL, MPEST, and STELAR for the same set of given gene trees.
- **Performing GWAS on the genomes of Bangladeshi Rice variants to analyze different phenotypical features**

The goal of this project is to find compatibility among local rice variants of Bangladesh with a view to facilitate hybridization.

- **Recognizing texts from signboard images**
  In this work, a two-step model was developed that can detect text regions from an image of a signboard using Mask RCNN and then can recognize text from the detected text regions using the Tesseract OCR engine.

PUBLICATION

- **A graph theoretic approach for maximizing target coverage using minimum directional sensors in randomly deployed wireless sensor networks**
  Authors: Laboni Sarker, **Sakshar Chakravarty**, Ashikur Rahman
  5th International Conference on Networking, Systems and Security 2018 (5th NSysS 2018) [paper link]

AWARDS AND HONORS

- **University Merit Scholarship:** Achieved in each term for being among top 10 percent students.
- **Dean's List Scholarship** Received in each level for attaining a GPA above 3.75 out of 4.
- **National Board-Talent Pool Scholarship in Higher Secondary Exam:** Secured 5^{th} position among top 200 students in our country
- **National Board-Talent Pool Scholarship in Secondary Exam:** Secured 9^{th} position among top 200 students in our country
- **International Math Competition 2010, South Korea:**Honorable mention

PROJECTS

- 2048: A Puzzle Game (C and OpenGL)
- Monopoly: A multi-player Game (Java)
- Blood Bank Management System (HTML, JavaScript, SQL)
- Bangla OCR Software designed for Bank Account Opening Application Form (Python, Tensorflow, Django)
- Household water consumption meter using ATMega32
- NACHOS extension (C++)
- Othello (Reversi): A strategic game using min-max algorithm with alpha-beta pruning (Java)
- Design and simulation of a 4-bit computer (Proteus)
- Automatic street-sign detection & identification using Raspberry Pi (Yolo, CNN)

TECHNOLOGY SKILLS

Programming Languages: C, C++, Java, Python, MATLAB, SQL, PL/SQL, PHP, Assembly(80X86), JavaScript.
Scripting Languages: bash, HTML, tcl.
Database: Oracle, MySQL.
Tools and Frameworks: pLink, ASTRAL, Keras, Tensorflow, Django, Proteus.

EXTRA-CURRICULAR ACTIVITIES

- **Instructor**
  Data Structures & Algorithms,
  Bohubrihi Online Courses September 2019 - Present
- **Member of Organizing Committee**
  7th International Conference on Networking, Systems and Security,
  NSysS 2020 December 2020
- **Member of Organizing Committee**
  6th International Conference on Networking, Systems and Security,
  NSysS 2019 December 2019
- **Member of Murchhona**
  Music club for the students of BUET July 2014 - October 2018
- **Member of Academic Team**
  Bangladesh Math Olympiad December 2013 - December 2018

REFERENCE

- **Dr. A.K.M. Ashikur Rahman**, Professor
  Department of Computer Science and Engineering
  Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
  e-mail: ashikur@cse.buet.ac.bd, Website
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  Department of Computer Science and Engineering
  Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh
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