

# Monikrishna Roy

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## EXPERIENCE

**Graduate Research Assistant**, University of Nevada, Reno, USA *Spring 2021 - Present*  
Working on machine learning-related research projects in the bioinformatics field. Focusing on clustering and disease subtyping. Also developing web applications to manage big data and analyze various machine learning methods..

**Software Engineer**, Samsung R&D Institute Bangladesh (SRBD) *Apr 2019 - Jan 2021*  
Developed web applications using Angular & Java Spring Boot. Worked on B2B projects to provide various solutions. Researched on mobile application field to improve performance and develop new features.

**Exchange Student**, Information Security Lab, Okayama University, Japan *17 July 2018 - 06 Aug 2018*  
Worked on Elliptic Curve Cryptography under the supervision of **Prof. Yasuyuki Nogami** at Information Security Lab. Tried to gain secret information from side-channel attack for order 4 rational points of BLS-12 Curve.

**Technical Assistant**, Jahangirnagar University, Bangladesh *Sep 2017 - Feb 2018*  
Worked at computer laboratory in Dept. of CSE to help students in lab-works and researches. Instructed students to use various technologies in the laboratory as well as in research.

**Programming Instructor**, Jahangirnagar University, Bangladesh *Jan 2016 - Dec 2018*  
Trained students of the Dept. of CSE for efficient problem solving using algorithms, data structures, and programming languages.

## COMPETITIVE PROGRAMMING ACHIEVEMENTS

- **Participation**, ACM International Collegiate Programming Contest (ICPC), Dhaka Regional from 2014 to 2017.
- **Participation**, National Collegiate Programming Contest (NCPCL), Bangladesh from 2014 to 2017.

### Online Contest Ratings (Max):

- TopCoder: **1273**, Codeforces: **1800**, Codechef: **2102**, Hackerrank: **2066**. (Top 20%)

## TECHNICAL EXPERTISE

|                  |                                                 |
|------------------|-------------------------------------------------|
| <b>Skill</b>     | Algorithms, Data Structures and Problem solving |
| <b>Languages</b> | C, C++, R, JAVA, Python, JavaScript             |
| <b>DBMS</b>      | MySQL, MongoDB                                  |
| <b>Others</b>    | Git, Angular, Spring Boot, Apache Maven         |

## EDUCATION

|                                                                                                |                              |
|------------------------------------------------------------------------------------------------|------------------------------|
| <b>PhD</b> in Computer Science & Engineering, University of Nevada, Reno, USA                  | <i>Spring 2021 - Present</i> |
| <b>MS</b> in Computer Science & Engineering, GPA: 3.73/4, Jahangirnagar University, Bangladesh | <i>Mar 2018 - Apr 2019</i>   |
| <b>BS</b> in Computer Science & Engineering, GPA: 3.68/4, Jahangirnagar University, Bangladesh | <i>Jan 2013 - Feb 2018</i>   |

## RESEARCH INTERESTS

Machine Learning, Deep Learning, Natural Language Processing, Data Mining, Big Data, Bioinformatics, Cybersecurity.

## RESEARCH WORKS

- Bangla Documents Classification using Transformer Based Deep Learning Models.
- Classification of Alzheimer's Disease from Magnetic Resonance Imaging using Siamese Network.
- Study on Side Channel Attack Using Order 4 Rational Points for BLS-12 Curve.
- Automatic Image Stitching Using Feature Based Method.

## MAJOR ACADEMIC PROJECTS

**Automatic Image Stitching:** Designed a flowchart of image stitching process and developed a tool to stitch images using MATLAB.

**Alumni Reunion Registration Management:** A desktop based application of management system, used for registration purposes. It has three parts- (i) new registration entry, (ii) update entity, (iii) save and view list. Developed using Java Swing Gui, MySQL Server.

## HONORS AND AWARDS

Technical Assistantship (2017-18), University Govt Scholarship (General) (2016-17), University Merit Scholarship (2012-15), High School Govt Scholarship (General) (2007-08).

## SELECTED COURSES

Advanced Topics Bioinformatics, Computational Methods in Statistics, Engineering Statistics, Data Mining, Artificial Intelligence and Expert System, Artificial Neural Networks, Linear Programming and Algorithm Analysis, Operating Systems, Database Systems, Data Structures, Graph Theory and Computational Geometry, Discrete Mathematics.