

# MD. TANVIR ALAM

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## EDUCATION

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### Master of Science

2020 - 2022

Department of Computer Science and Engineering, University of Dhaka, Bangladesh  
GPA: 4.00/4.00 (Ranked 1<sup>st</sup>)

### Bachelor of Science

2016 - 2019

Department of Computer Science and Engineering, University of Dhaka, Bangladesh  
GPA: 3.96/4.0 (Ranked 1<sup>st</sup>)

## TEACHING EXPERIENCE

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### Lecturer

2023-Present

Department of Computer Science and Engineering, University of Dhaka, Bangladesh.  
Courses Taught: Data Structures and Algorithms, Numerical Methods, Multivariable Calculus and Geometry, Fundamentals of Programming Lab, Application Development Lab.

### Lecturer

2022-2023

Department of Computer Science and Engineering, East West University, Bangladesh.  
Courses Taught: Web Programming, Advanced Database Systems, Computer Architecture.

## SELECTED PUBLICATIONS

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**Alam, M. T.**, Ahmed, C. F., Samiullah, M., Leung, C. K. (2023). Discovering Interesting Patterns from Hypergraphs. *ACM Transactions on Knowledge Discovery from Data (ACM TKDD)*, 18(1), 1-34.

**Alam, M. T.**, Ahmed, C. F., Samiullah, M., Leung, C. K. (2021, May). Discriminating frequent pattern based supervised graph embedding for classification. In *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)* (pp. 16-28). Springer, Cham.

**Alam, M. T.**, Ahmed, C. F., Samiullah, M., Leung, C. K. (2021, May). Mining frequent patterns from hypergraph databases. In *Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD)* (pp. 3-15). Springer, Cham.

**Alam, M. T.**, Roy, A., Ahmed, C. F., Islam, M. A., Leung, C. K. (2021, December). Mining High Utility Subgraphs. In *2021 International Conference on Data Mining Workshops (ICDMW)* (pp. 566-573). IEEE.

**Alam, M. T.**, Roy, A., Ahmed, C. F., Islam, M., Leung, C. K. (2022). UGMINE: utility-based graph mining. *Applied Intelligence*, Vol. 53 (pp. 4968).

Islam, M. A., Ahmed, C. F., **Alam, M. T.**, Leung, C. K. (2024). Graph-based substructure pattern mining with edge-weight. *Applied Intelligence*, 54(5), 3756-3785.

## RESEARCH EXPERIENCE

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**Research Assistant**, Regional Collaborations Programme, Australian Academy of Science

2021-2022

Project title: Geo-spatial transfer learning based rumour-spreading trend analysis to detect fake news about COVID-19 and on the effects of its vaccines

- Developed an algorithm for analyzing information-spreading trends presented as edge-ordered graphs
- Assessed the performance of the algorithm by conducting experimental analysis on data sets
- Collaborated with co-authors to prepare a manuscript for publication

**Research Assistant**, Brown University, United States 2021  
Project title: Making Meaning of Gendered Violence and the Law: Global Discourses and Local Realities in Bangladesh.  
• Constructed a corpus for textual analysis of gendered violence in Bangladesh  
• Devised and applied a technique for cleaning topic-wise text data from numerous sources

**Research Assistant**, Department of ICT, Ministry of PTIT, Bangladesh. 2020-2021  
Project title: DrAi: Artificial Intelligence and Pattern Recognition Driven Assistant for Providing Effective Treatment  
• Supervised the development team of the software system  
• Designed the machine learning pipeline, conducted data collection, model development, and deployment  
• Collaborated in preparing manuscripts for publication and project reports

**Research Assistant**, Data Mining Research Group, Department of CSE, University of Dhaka 2021-2022  
Project title: Developing Efficient Technique to Detect False Facts Using Knowledge Graph and Bayesian Network-Based Models  
• Developed an algorithm for mining features from knowledge graphs and performed experimental analysis

## AWARDS

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**Deans Award**, awarded by the Faculty of Engineering and Technology, University of Dhaka, in recognition of outstanding academic achievement in Bachelor of Science with honours. 2022  
**Azfar Alam Memorial Gold Medal**, awarded by the University of Dhaka for obtaining the highest CGPA in the Bachelor of Science examination of 2019. 2022  
**Talentpool Scholarship**, awarded by the Directorate of Secondary and Higher Education, Government of Bangladesh for obtaining the highest CGPA in the Bachelor of Science examination. 2022

## ACHIEVEMENTS

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**Champion, Code Samurai Inter-University Hackathon** 2019  
• A day-long inter-university hackathon organized by a Bangladesh-Japan venture company, BJIT Limited  
• A total of 34 teams participated in the hackathon  
• Developed a solution for automated traffic management in Dhaka city based on real data  
**Winner, Student to Startup, Chapter 2** 2019  
• A startup pitch competition organized by the ICT Division, Bangladesh  
• Pitched and developed an image search-based solution for fashion product search engine

## GRANTS

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**Master's Fellowship** 2020  
• A fellowship worth 3,30,000 BDT  
• Awarded by ICT Innovation Fund, ICT Division, Bangladesh  
• For conducting master's thesis research work titled "*Hypergraph Mining Methodologies*"  
**Bangabandhu Innovation Grant** 2019  
• A grant worth BDT 1 million was awarded by Startup Bangladesh Limited

## REFERENCES

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**Dr. Chowdhury Farhan Ahmed**  
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**Md. Samiullah**  
Assistant Professor  
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