# MD. TANVIR ALAM

(+88)01551-225972 • tanvir@cse.du.ac.bd • Google Scholar • https://tanvirfahim15.github.io/

## EDUCATION

**Master of Science**                                                                 *2020 - 2022*
Department of Computer Science and Engineering, University of Dhaka, Bangladesh
GPA: 4.00/4.00 (Ranked $1^{st}$)

**Bachelor of Science**                                                               *2016 - 2019*
Department of Computer Science and Engineering, University of Dhaka, Bangladesh
GPA: 3.96/4.0 (Ranked $1^{st}$)

## TEACHING EXPERIENCE

**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, Object Oriented Programming.

## PUBLICATIONS

- **Alam, M. T.**, Alam, M. A., Rahman, M. M., Khan, M. M. (2025). Rel-HNN: Split Parallel Hypergraph Neural Network for Learning on Relational Databases. Submitted to Transactions on Machine Learning Research (**TMLR**), 2025. Accepted with minor revision. [**Preprint**]

- **Alam, M. T.**, Ahmed, C. F., Leung, C. K. (2024). Hyperedge Anomaly Detection with Hypergraph Neural Network. Under Review. [**Preprint**]

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

- **Alam, M. T.**, Roy, A., Ahmed, C. F., Islam, M. A., Leung, C. K. (2021, December). Mining High Utility Subgraphs. International Conference on Data Mining (**ICDM**) Workshop on Utility Driven Mining and Learning (pp. 566-573). IEEE.

- **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., 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

**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 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

**Deans Award**, awarded by the Faculty of Engineering and Technology, University of Dhaka, in recognition of outstanding academic achievement in Bachelor of Science with honors.    *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

**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

**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