Protik Bose Pranto

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Education

Bangladesh University of Engineering and Technology *March, 2016 - January, 2021*
Bachelors in *Computer Science and Engineering*

Notre Dame College, Dhaka *July, 2013 - December, 2015*
Higher Secondary Certificate
GPA: 5.00/5.00

Publication

- **Protik Bose Pranto**, Bishal Basak Papan, and Md. Saidur Rahman. "k-Safe Labelings of Connected Graphs". In: **Accepted** at *IEEE International Conference on Telecommunications and Photonics*, **ICTP** (**2021**).

- Bishal Basak Papan, **Protik Bose Pranto**, and Md. Saidur Rahman. "On 2-Interval Pairwise Compatibility Properties of Two Classes of Grid Graphs". In: **Accepted** at *The Computer Journal*, **COMPJ** (**2021**).

Research Work

1. **Protik Bose Pranto**, Syed Zamiul Haque Navid, Protik Dey, Gias Uddin, and Anindya Iqbal. "Are You Misinformed? A Study of Covid-Related Fake News in Bengali on Facebook". In: **Submitted** at *The ACM CHI Conference on Human Factors in Computing Systems*, **CHI** (**2022**).

Research Experience

Graph Drawing and Information Visualization Laboratory, BUET *2019 – 2021*
Undergraduate Researcher with Prof. Md. Saidur Rahman

- **k-Safe Labelings of Connected Graphs**
  - An upper bound on k-safe labelings of all connected graphs based on the size of the maximum clique in the graph is proposed. Proof for this upper bound leads to a polynomial-time algorithm for finding the k-safe labelings of any connected graph.
- **Grid Graphs are 2-Interval Pairwise Compatibility Graphs**
  - Not all graphs are PCGs (Pairwise Compatibility Graph). A graph G is called a k-interval PCG if there exists an edge- weighted tree T and k mutually exclusive intervals of non-negative real numbers such that there is an edge between two vertices in G if and only if the distance between their corresponding leaves in T lies within any of the k intervals. This research is intended for showing that grid graphs and a subclass of 3D grid graphs are 2-interval PCGs.

Ongoing Research Projects

Working on this project under the supervision of Dr. Gias Uddin (University of Calgary) and Dr. Anindya Iqbal (Bangladesh University of Engineering and Technology)

- **Misinformation in Social Media**
  - Fake news has gathered momentum over the years but can be a dangerous way of obtaining information. Here, we are trying to describe the prevalence of misinformation in different social media. We are also working on the demonstration of types and evolution of misinformation over time.

Research Area

- Graph Theory and Algorithms
- Misinformation
- Human Computer Interaction
- Natural Language Processing

Work Experience

Chaldal Engineering *March, 2021 - Present*
Software Engineer

- **Customer Experience Team**
  I have worked in this team managing their website, mobile app, order APIs, search catalog and other user-facing services.

- **EggShell Team**
  EggShell is a tech stack for front end apps. It combines a number of technologies like React, Fable, ReactXP, RenderDSL, and StyleDSL exhibiting a common framework for both web and android.

Projects

Vasha-Sikkha
Dart

- A flutter framework-based application that helps one learn English in a very interactive way. Users can practice speaking, reading, listening, and writing by completing different tasks. Users' scores are maintained and on completing a lesson, the user score will be updated, and he/she can view his/her ranking in the leaderboard.

CovidLife
Dart

- This is a flutter based health-related android application. Corona details of Bangladesh are shown here. Two built-in APIs are used to provide district wise and daily corona data.
- Doctor appointment,phone call or message can be made easily.

Bangla Fake News Detection
Python

- Data are collected from facebook posts and comments.
- Various machine learning algorithms like KNN, Logistic Regression ,Random Forest,Linear Support Vector, Naive Bayes, Decision Tree, XGBoost, Passive Aggressive Classifier algorithms are applied.

Gesture Sensed Snake Game
C,C++,Makefile

- This is a hardware project using Atmega32 and Accelerometer sensor.

Hotel Management System
Java,SQL

- This is a Java and Oracle Database-based project.
- JavaFX Scene Builder is used for the UI parts.
- In the database system, employees can be identified by their name, address, phone number, id, job title, salary, hire date
- The user can also add, delete, edit the reservation.

Online Poker
Java

- Java-based a multiplayer online card game.
- can be played by 2 different players connected with the game server.
- JavaFX Scene Builder is used for UI parts.

Baby's Walk
C,C++

- This is a simple iGraphics game.
- User has to balance a walking baby by left-right mouse clicking.

Skill

- **Language:** C, C++, Java, Dart, Python, HTML, Assembly(80x86), Matlab, SQL, Typescript, F#.
- **Environment:** CodeBlocks, NetBeans, Emu8086, Android Studio, Visual Studio Code, Proteus.
- **Mobile Application Development:** Android, Flutter, React Native.
- **Database:** Oracle, MySQL, SQLite.
- **Tools and Platforms:** Git, Unity, Lucidchart, draw.io, OpenCV, Cuda, JavaFX Scene Builder, Tensorflow, Keras, PyTorch, Scikit-learn.
- **Other:** Latex, Microsoft Office, Microsoft Powerpoint, Probability and Statistics, Data Structures, Unity.

Achievements

- Completed **Google Foobar Challenge** *2020*
- Ranked 3rd place in **South Asia Center for Media in Development** *2020*
- Winner of the **HackTheCode contest** in **Google Cloud DevFest** *2019*
- Our idea got selected among the **top 30 ideas** in **Eduprenuership Idea Quest** *2017*
- Ranked 3rd place in the hackathon of **IUT ICT Fest** *2017*
- Our team was among the **top 50 teams** in **ICPC Regional Contest** *2017,2016*

References

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