

# MD HASIBUL HUSAIN HISHAM

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## RESEARCH INTEREST

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Applied Machine Learning — Medical Imaging — Human Centered Computing

## EDUCATION

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**University of Utah** *Ph.D.*  
(2017-2022)

Department of Computer Science & Engineering

**Bangladesh University of Engineering & Technology** *B.Sc.*  
(2017-2022)

Department of Computer Science & Engineering

CGPA: 3.79 (Last two semesters CGPA: 3.90)

University Merit Scholarship- 2017, 2018, 2021

Dean's List Scholarship- 2018, 2019, 2021

**Notre Dame College** *HSC*  
GPA: 5.00 (out of 5.00)

Board Merit Scholarship - 2016

**The Flowers KG & High School, Moulvibazar** *SSC*  
GPA: 5.00 (out of 5.00)

Board Merit Scholarship - 2014

## PUBLICATION

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**CORONOSIS: Corona Prognosis via a Global Lens to Enable Efficient Policy-making Both at Global and Local Levels** *(COMPASS '22)*

Link: <https://dl.acm.org/doi/10.1145/3530190.3534831>

Supervisor(s): Dr. Sriram Chellappan, Dr. A. B. M. Alim Al Islam

## SUBMITTED DRAFTS

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**Gene panel design for spatial transcriptomics with prioritized gene sets**

*Preprint Link: <https://www.biorxiv.org/content/10.1101/2022.09.25.509418v1>*

submitted to **Genome Biology**, currently addressing reviewer's comments

Supervisor(s): Dr. Md. Abul Hassan Samee, Dr. Atif Hasan Rahman

**A Bimodal Longitudinal Investigation on Changes in Sentiments over Social Media Interactions owing to COVID-19 Pandemic**

Currently submitted in *Technological Forecasting and Social Change*

Supervisor(s): Dr. Sriram Chellappan, Dr. A. B. M. Alim Al Islam

## ONGOING RESEARCH WORKS

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**Prompt Engineering for Program Comprehension Tasks: A Survey Story**

Working on Vulnerability Detection and Crypto-api Misuse Detection tasks

Supervisor(s): Md Latif Siddiq Sunny, Joanna C. S. Santos

## WORK EXPERIENCE

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### **Bangladesh University of Engineering and Technology**

*November 2022 - April 2023*

*Lecturer (adjunct)*

Courses Taken: CSE102: Introduction to Programming, CSE318: Artificial Intelligence, CSE472: Machine Learning

### **Optimizely**

*June 2022 - July 2023*

*Software Engineer*

Got extended training on Git, Microservice, Docker, Basic AWS, Node, React, Clean Code Practises, etc. Worked on a project on Angular to React Migration, in which we are converting the entire system's legacy Angular code base to React. Currently working in Platform team where we define the coding policy of the system, address the system's old tech debts, and resolve any unattended bugs.

### **Dynamic Solution Innovators**

*February 2022 - April 2023*

*Junior Software Engineer, Intern*

Used Cypress to write end-to-end Automated Tests for IEIMS that is going to be utilized by [Secondary](#) and [Higher Secondary](#) students all over the country.

### **Free Pixel Games Ltd.**

*December 2020 - January 2021*

*Data Analyst Intern*

My main role was to analyze the Android and iOS games data followed by interpreting and spotting patterns, trends, and correlations in the data. I used Tableau and Google Data Studio for fetching and analyzing the data from their database.

## NOTABLE PROJECTS

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### **Everybody Dance Now**

- Pose estimation from dance videos
- Image-to-Image translation between two subjects in a Generative Adversarial Networks(GAN) technique using pose as an intermediate representation

### **CORONOSIS (Live)**

- A Full-Stack (MERN) web-based Dashboard for Visualizing Covid Data and Prediction
- Mainly worked in Data analysis, partially in Frontend team
- We got *16716* unique visitors during the pandemic period. Our work also got published as a [Short Paper](#) in [COMPASS 2022](#)

### **Port Scanning with OS Detection**

- Demonstrated a cyber attack with port scanning to exploit a vulnerable target system
- Enlisted the open ports along with the OS running in the target system

### **Wordle Solver**

- Helper aimed to solve the wordle game given current state
- Used the helper to create an automated solver which can guess 96.72% of all the Wordle words within 6 attempts
- Solver could guess all the wordle words within an average of 4.39 attempts

### **SoccerBoard (Live)**

- A Full-Stack (MERN) Football Club Management System which would increase the efficiency of a Manager upto 150%
- Worked in both Frontend and Backend of certain modules

### Lines of Action

- AI zero-sum game, adversarial search
- Both human vs human and human vs ai mode, playable in different board size

### ATMega FireFighter (Live)

- Hardware Fire Detection and Extinguish System
- Implemented using ATMega32, GSM controllers, and servo motors

## ACCOMPLISHMENTS

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### **KnightCTF 2022 (international)**

Team Accomplishment, stood 49th among 752 other teams

### **BGD e-GOV CIRT Inter-University Cyber Drill 2021**

Team Accomplishment, Team Leader, stood 5th (scorewise 2nd) among 287 universities

### **Flag Hunt 2021 (CTF\_BD)**

Team Accomplishment, Team Leader, stood 5th among 300 teams

### **Blockchain Olympiad Bangladesh**

Finalist

Project: VacTrace, Blockchain based Monitoring & Controlling System of Covid-19 Vaccines

### **Hult Prize on campus - 2018**

Finalist

### **National High School Programming Contest - 2016**

Regional Winner

### **Regional Math Olympiad**

2014: 1st runner-up

2012: 2nd runner-up

## TECHNICAL SKILLS

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|------------------------------|---|
| <b>Language</b>              | Python, Java, C, C++, Javascript, Assembly, R                             |
| <b>Frameworks</b>            | NodeJs, React, Tensorflow, Pytorch  |
| <b>Tools &amp; Softwares</b> | Linux, Autopsy, Wireshark, Burpsuite, Postman, Latex, Cisco Packet Tracer |
| <b>Database</b>              | MongoDB, MySQL, PostgreSQL  |
| <b>Version Control</b>       | Git   |

## ORGANIZATIONAL ACTIVITIES

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### **IEEE BUET Computer Society**

*April 2020 - May 2022*

*Treasurer*

Problem Setter at *IEEE BUET CS Capture The Flag: Super League*, hosted workshops and seminars

### **BUET Dance Club**

*March 2020 - May 2022*

*Organizing Secretary*

Founded one yearly event (Groove-on) for freshers, organized the [YouTube channel](#) of the club