SUMAITA BINTE SHORIF

Dhaka, Bangladesh

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RESEARCH INTEREST

Computer Vision, Image Processing, Artificial Intelligence, Deep Learning, Machine Learning and Intelligent Systems Development

EDUCATIONAL QUALIFICATION

Jahangirnagar University — **Feb 2019 – Present**

4th Year B.Sc. in Computer Science and Engineering Student — **CGPA: 3.76/4.00 (Rank: 3/59)**
(Awarded Merit Scholarships in All Semesters till now)
Ongoing Research Project: Classification of Butterfly Images Using Deep Learning and Bag-of-Feature

PUBLICATIONS

- MultiResEdge: A Deep Learning-Based Edge Detection Approach. Kanija Muntarina, Rafid Mostafiz, Fahmida Khanom, **Sumaita Binte Shorif**, Mohammad Shorif Uddin. Published in **Intelligent Systems with Applications, Elsevier(WoS, Scopus, Q1)** vol. 20, November 2023.[Paper]

- A Dataset for Successful Recognition of Cucumber Diseases. Nusrat Sultana, **Sumaita Binte Shorif**, Morium Akter, Mohammad Shorif Uddin. Published in **Data in Brief, Elsevier(WoS, Scopus, Q2)** vol. 49, August 2023. [Paper]

- Notes on edge detection approaches. Kanija Muntarina, **Sumaita Binte Shorif**, Mohammad Shorif Uddin. Published in **Evolving Systems, Springer(WoS, Scopus, Q2)**, March 2021.[Paper]

- Computer Vision-Based Algorithms on Zebra Crossing Navigation. **Sumaita Binte Shorif**, Sadia Afrin, Anup Majumder, Mohammad Shorif Uddin. Published in the Proceedings of International Joint Conference on Advances in Computational Intelligence **(IJCACI 2021)**, 23-24 October 2021, New Delhi, India. **Algorithms for Intelligent Systems, Springer**, pp. 319-328. [Paper]

- Medicinal Plant Recognition from Leaf Images Using Deep Learning. Md. Ariful Hassan, Md. Sydul Islam, Md. Mehedi Hasan, **Sumaita Binte Shorif**, Md. Tarek Habib, Mohammad Shorif Uddin. Published in Computer Vision and Machine Learning in Agriculture, Volume 2, **Springer**, pp. 137-154, 2022. [Paper]

- Role-Framework of Artificial Intelligence in Combating the COVID-19 Pandemic. Mohammad Shorif Uddin, **Sumaita Binte Shorif**, Aditi Sarker. Published in Vision, Sensing and Analytics: Integrative Approaches, **Springer**, pp. 357-370, 2021. [Paper]

- Robots and Drones in Applications - A Survey. Rabeya Basri, Fahmida Islam, **Sumaita Binte Shorif**, Mohammad Shorif Uddin. Published in Computer Vision and Machine Learning in Agriculture, **Springer**, pp. 9-30, 2021. [Paper]

- Machine Vision-Based Fruit and Vegetable Disease Recognition: A Review. Md Tarek Habib, Md Ariful Islam Arif, **Sumaita Binte Shorif**, Mohammad Shorif Uddin, Farruk Ahmed. Published in Computer Vision and Machine Learning in Agriculture, **Springer**, pp. 143-157, 2021. [Paper]

- Deep Learning-Based Essential Paddy Pests' Filtration Technique for Economic Damage Management. Md Zahid Hasan, Nahid Zeba, **Sumaita Binte Shorif**, Morium Akter. Published in Computer Vision and Machine Learning in Agriculture, **Springer**, pp. 51-65, 2021. [Paper]

- Vehicle Detection and Its Speed Measurement. Morium Akter, Jannatul Ferdous, Mahmuda Najnin Eva, **Sumaita Binte Shorif**, Sk. Fahmida Islam and M. Shorif Uddin. Published in the Proceedings of of International Conference on Advances in Energy Management **(ICAEM 2019)**, 20-21 December 2019, Jodhpur, India, **Algorithms for Intelligent Systems, Springer**. [Paper]

SELECTED PROJECTS

RecycloBD: One man's trash is another man's treasure ⬀ | <u>Android Studio: Java</u>   Oct 2020
- A mobile app that facilitates turning trash into treasure. The aim of this app is to ensure proper waste recycling and management on both personal and industrial level.

Recovid: Let's Recover from Covid-19 ⬀ | <u>Android Studio: Java</u>   July 2020
- Developed a **dynamic** peer to peer data sharing platform that aims at making personal and community life easier not just for patients but also doctors, volunteers and connecting people who recovered from Covid-19.
- Focuses on community engagement upon helping the community create an easier way of ensuring health, communication, food subscription as well safe blood and plasma donation.

Exam Bill Management System ⬀ | <u>Python, Django, Bootstrap</u>   Sept 2022
- Developed a web app which enables the faculty and educators of Jahangirnagar University to keep an organized track of all invoice related activities taking place within exam committees and keep a tab on the overall expenses.

IoT based Fire Department Alert System ⬀ | <u>Arduino</u>   Oct 2022
- A smart way of alerting the fire department upon detecting smoke caused by a fire.

SELECTED AWARDS AND ACHIEVEMENTS

- **1st Runner Up**, Power Up Inter-University Online Business Plan Competition 2020 organized by Varendra University, Bangladesh - Jan, 2021.

- **Shortlisted Participant**, made it to the top 100 teams out of 3700+ teams from all over the country in **ideaTHON Contest 2020** organized by Startup Bangladesh — Innovation, Design Entrepreneurship Academy (iDEA) — Bangladesh Computer Council — ICT Division -Nov, 2020

- **JU Merit Scholarship:** Awarded **scholarships** for academic excellence from among 420 students from session 2019 to present.

- **Champion**, BdOSN Dev Mania 2020, **Hackathon** Organized by: BdOSN (Bangladesh Open Source Network), October 04 2020 -Oct, 2020

- **Honourable Mention**, PrivaShe Hacks'20, Hackathon Organized by: PrivaC -July, 2020

- **One of the top 36 Finalists** going to Boot Camp out of 1000+ Participants from the National Round, 1st Bangladesh Junior Science Olympiad (BDJSO-National) Camp -Aug, 2015

- **Special Prize Holder**, 1st Bangladesh Junior Science Olympiad (BDJSO-National) -20 Aug, 2015

- **2nd Runner Up**, 13th Bangladesh Mathematical Olympiad (BDMO), Dhaka Regional Olympiad -16 Jan, 2015

- **Ranked at top 30% out of 100+ teams** at Ada Lovelace National Girls' Programming Contest 2022, Hosted by: University of Asia Pacific, Dhaka, Bangladesh. July 23, 2022

- **Ranked at top 40% out of 100+ teams** at National Girls' Programming Contest 2021, Hosted by: Daffodil International University, Dhaka, Bangladesh. November 26, 2021

- Participated in **100+** Prestigious Competitive Programming Contests (both onsite and online) including **IEEE Xtreme 14.0, ICPC Dhaka Regional Preliminary Contest 2020** and so on.

TECHNICAL SKILLS

Competitive Programmer in C/C++
Digital Artist, Proficient at creating vector logos and graphic design
Languages: Python, C, C++, Java, SQL, HTML, MATLAB
Machine Learning: PyTorch, Keras, OpenCV
Developer Tools: VS Code, Android Studio, LATEX, PyCharm, Django, Weka
Illustration Tools: Proficient in Adobe Illustrator, Adobe Fresco

CO-CURRICULAR ACTIVITIES AND MEDIA PARTICIPATION

- Created hundreds of **digital artwork and logo designs** ↗
- **Bangladesh National Television(BTV)** Parliamentary English Debate Speaker, TV program no. 3412/7, 28 Sept 2016.
- Won prizes (including one best speaker award) **2 years in a row** in **Intra-School Debate Competitions** organized by Foundation School, Bangladesh from 2011-2012.
- Won prizes **4 years in a row** in **Intra-School Science Fair Competitions** organized by Foundation School, Bangladesh from 2008-2011.
- Medium Article published in 2020- **"Is Art Generated by Artificial Intelligence Really Art?"** ↗
- Medium Article published in 2020-
  "Writing Your Very First Code- Let's Byte it Down *Pun very much intended*" ↗
- Article published- "It's All Fun and Nails to Get Creative"on the Lifestyle section of "The Independent" daily Newspaper on Thursday, Oct 2 2014

VOLUNTEERING AFFILIATION AND EXPERIENCE

- **Alpha Ambassador at Microsoft Student Learn Ambassadors. April 2021 - July 2022**
- **Campus Ambassador, Bangladesh 2021 at Youth Opportunities. Jan 2021 - Dec 2021**
- **IEEE Student Member Bangladesh Section Member #96794082**
- Bangladesh Ambassador for Microfest++ organized by Microsoft Student Partners Pakistan held on 29-31 May 2020. Ambassador code: MS-1154
- **Management Team Member and Medium subgroup lead at Voice of Code by Microsoft Student Partners. May 2020- June 2021**
- **Creative Development Secretary, Jahangirnagar University Computer Club:** Directed event operations, media engagements of the organization.
- **Former Writer at Writers Club at Voice of Code by Microsoft Student Partners**
- **Participant, Workshop on Debate and Presentation by JUDO (Jahangirnagar University Debate Organization). 6 March 2019**
- **Member, Jahangirnagar University Science Club (JUSC)**
- **Member, Jahangirnagar University Information Technology Society (JUITS)**

CERTIFICATIONS

Introduction to Cybersecurity by Cisco ↗

Graphic Elements of Design: Color Theory and Image Formats- Coursera ↗

Basic Elements of Design: Design Principles and Software Overview- Coursera ↗

Networking Academy Learn-A-Thon 2020 by Cisco ↗

Introduction to Psychology- Coursera ↗