

# Simantika Bhattacharjee Dristi

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## Research Interest

Software Engineering, Software Testing, Machine Learning, Computer Vision

## Education

### University of Virginia

*Ph.D. in Computer Science*

*August 2024 – Present*

### Bangladesh University of Engineering and Technology (BUET)

*Bachelor of Science in Computer Science and Engineering*

*March 2018 – May 2023*

- CGPA: **3.95/4.00**
- Major GPA: **3.97/4.00**
- CGPA of last 2 years of graduation: **3.99/4.00**

## Professional Experience

### Graduate Research Assistant

*August 2024 - Present*

*Department of Computer Science, University of Virginia*

### Lecturer (On Leave)

*June 2023 - Present*

*Department of Computer Science and Engineering, BRAC University, Dhaka*

## Lab Affiliations

### Graduate Research Assistant

*August 2024 - Present*

*LESS Lab, University of Virginia*

### Remote Research Collaborator

*June 2023 - December 2023*

*Security and Software Engineering (S<sup>2</sup>E) lab, University of Notre Dame, Indiana*

### Undergraduate Research Assistant

*May 2022 - May 2023*

*Bangladesh University of Engineering and Technology (BUET)*

## Publication

- **Simantika Bhattacharjee Dristi**, Matthew B. Dwyer. “LoCaL: Countering Surface Bias in Code Evaluation Metrics.” *FSE 2026*.
- Mohammed Latif Siddiq, **Simantika Bhattacharjee Dristi**, Joy Saha, Joanna Cecilia da Silva Santos. “The Fault in Our Stars: Quality Assessment of Evaluation Datasets Used for Code Generation.” *SCAM 2024*.

## Awards and Achievements

- Received Provost's fellowship from the University of Virginia for demonstrating commitment to academics and research.
- Received Best Poster Award (Faculty Choice) in UVA Research Symposium 2025.
- Received Best Poster Award (Audience Choice) in UVA Research Symposium 2025.
- Received BUET Dean's List Award for academic excellence in each level.
- Received University Merit Scholarship in each semester.
- Ranked in the top 0.5 % of candidates in BUET admission test, achieving a rank of 59 and in the top 0.175 % of candidates in all Bangladesh medical admission test, achieving a rank of 175.
- Achieved Bangladesh Government scholarship in both Secondary School Certificate and Higher Secondary Certificate examinations.

## Academic Projects

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<b>CNN from Scratch</b>   Deep Learning Project	2023
<ul style="list-style-type: none"><li>Implementation of a convolutional neural network for an image classification task from scratch.</li><li>Tech stack: Python</li></ul>	
<b>Broken/working website classification from screenshots using CNN</b>   Deep Learning Project	2023
<ul style="list-style-type: none"><li>An image classification system that uses a CNN to differentiate between broken and working websites.</li><li>Tech stack : Python</li></ul>	
<b>Ray Casting and Ray Tracing</b>   Computer Graphics Project	2022
<ul style="list-style-type: none"><li>A computer graphics project that generates realistic images of geometric shapes such as spheres, triangles, planes, and quadratic surfaces using ray casting and ray tracing techniques, along with the Phong Illumination Model.</li><li>Tech stack: C++, OpenGL</li></ul>	
<b>csRecruitZ</b>   Software Development Project	2022
<ul style="list-style-type: none"><li>An online job-finding platform for individuals with a computer science background, facilitating job seekers to connect with potential employers and employers to post job listings and view applications.</li><li>Tech stack: Javascript, Python, Django, PostgreSQL, ReactJS</li></ul>	
<b>Mancala</b>   Artificial Intelligence Project	2022
<ul style="list-style-type: none"><li>An application of adversarial search implemented using the Minimax algorithm with alpha-beta pruning, where a player can play the game Mancala with an AI agent or another player.</li><li>Tech stack : Java</li></ul>	
<b>Network Simulator-3 (NS3)</b>   Computer Networks Project	2022
<ul style="list-style-type: none"><li>A network simulator incorporating a new TCP-Congestion Control Algorithm, named TCP-INVS and analyzing performance metrics through graph plotting for various network topologies.</li><li>Tech stack: C++, Python</li></ul>	
<b>COVID-Safe Room</b>   Micro-controller Project	2021
<ul style="list-style-type: none"><li>Project Demo</li><li>A hardware project that replicates a room with automated entrance and exit coupled with automated temperature detection and contactless hand sanitizing</li><li>Tech stack: C++, Tools : ATmega32, Arduino UNO, IR temperature sensor, Ultrasonic sensor, LCD, SG90 Servo Motors</li></ul>	
<b>Ishtishon</b>   Database Project	2020
<ul style="list-style-type: none"><li>Project Demo</li><li>An online railway ticket-booking platform that provides users an easy interface to search for train schedules, book tickets, and make payments.</li><li>Tech stack: Python, Javascript, Django, Oracle, frontend: CSS, HTML</li></ul>	
<b>C++ Compiler</b>   Compiler Project	2021
<ul style="list-style-type: none"><li>An implementation of a C++ compiler from scratch.</li><li>Tech stack: C++, Flex, Bison</li></ul>	
<b>Brain Buzz</b>   Object Oriented Programming Project	2019
<ul style="list-style-type: none"><li>Project Demo</li><li>A modular quiz game implemented using object-oriented programming principles to provide an interactive way for users to test their knowledge on various topics.</li><li>Tech stack: Java, JavaFX</li></ul>	

## Technical Skills

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### Programming and Markup Languages

- Python | C/C++ | Java | Bash | JavaScript | HTML | CSS

### Database

- MySQL | PostgreSQL | Oracle

### Frameworks

- Keras | ReactJS | Django | OpenGL

### Tools/Software

- Git | Latex | Cisco Packet Tracer | JavaFX | SRA-Toolkit

### Libraries

- Matplotlib | OpenCV | NumPy | Pandas | SciPy | Scikit-Learn | Tensorflow | Pytorch

## Online courses and certifications

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- **HTML, CSS, and Javascript for Web Developers** by Johns Hopkins University offered through Coursera.
- **Convolutional Neural Networks** by Deep Learning.AI offered through Coursera.
- **Sequence Models** by Deep Learning.AI offered through Coursera.
- **Structuring Machine Learning Projects** by Deep Learning.AI offered through Coursera.
- **Neural Networks and Deep Learning** by Deep Learning.AI offered through Coursera.
- **Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization** by DeepLearning.AI offered through Coursera.
- **Specialization on Deep Learning** by DeepLearning.AI offered through Coursera.

## Extra-Curricular Activities

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- **Creative pursuits:** Received 7 years of formal training in classical singing, actively participated in all departmental cultural programs.
- **Volunteer Work:** Participated in fund-raising for cancer patient.
- **Language skills:**
  - Fluent in Bangla, English, basic Spanish and Hindi.
  - Scored **113/120** in **TOEFL iBT**
  - Completed the online course titled, **Learn Spanish: Basic Spanish Vocabulary** by UC Davis offered through Coursera.