

# Muntaka Ibanth

Riverside, California

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## Research Interests

- Software and Systems Security
- Program Analysis

## Education

### University of California Riverside

PhD in Computer Science

- **CGPA:** 3.75/4.00
- **Noteworthy Courses:** Computer Security, Software Testing and Analysis, Software Security

Riverside, California

September, 2023 - Present

### Bangladesh University of Engineering and Technology

Bachelor of Science in Computer Science and Engineering

- **CGPA:** 3.72/4.00
- **Courses:** Computer Security, Computer Networking, Human-Computer Interaction, Operating System, Basic Graph Theory, Software Engineering, Object-Oriented Programming, Data Structures and Algorithms, Discrete Math, Computer Architecture, Compiler

Dhaka, Bangladesh

February, 2017 - May, 2022

## Publication

### On Feature Selection Algorithms for an Effective Botnet Detection

JNSM 2023

M. Afroz, **M. Ibanth**, A. Rahman, J. Sultana, R. Rab

- Extracted 15 different flow-based features from the ISCX botnet dataset and analyzed the time complexities of the different feature selection heuristics
- Presented a comparative analysis of five feature selection heuristics among which, one resulted in around 90% detection rate
- Presented the paper in UNet '22 conference

## Research Experience

### Mapping Network Traces with Network Topologies using Generative Models

Co-Author

January, 2024 - present

- Implementing the mapping algorithm between topologies and traces

### FoB: Federated Learning in a Bandwidth Budget

Co-Author

December, 2023 - January, 2024

- Simulated the technique in a closer to real-world simulation environment and reported the results

### Correlation Between Different Physiological Parameters and Menstrual Cycle of Women

Co-Author

September, 2022 - May, 2023

- Analyzing the different parameters that affects menstrual cycle and formulating the problem

### Third-party Authentication in Federated Cloud, Edge, and Fog Systems

Research Assistant

October, 2020 - June, 2021

- Re-authenticate transparently and securely without creating any account on the new network
- Restore the application state when the UE moved to a new network

### NeuroLandscape

Research Assistant

January, 2020 - June, 2021

- Analyzed the affordable mind monitoring technologies for the article - Affordable Technologies for Evidence Based Studies and Mind Monitoring
- Worked with Bangladesh team on one of their research projects named "Planting Seeds of Empowerment"
- Collected human-centered data by interviewing several women regarding their social and financial condition for pre and post covid times for behavioral analysis

## Teaching Experience

### University of California Riverside(UCR)

Teaching Assistant

Riverside, California

January, 2024 - March 2024

- **Course:** CS169: Mobile Wireless Communication
- Conducted Lab classes of CS169 course.
- Worked as the project supervisor for the term project

- **Theory Courses:** Discrete Mathematics, Software Engineering
- **Lab Courses:** Advanced Object Oriented Programming, Data Structures and Algorithms, Introduction to Computer Systems
- Designed the Human-Computer Interaction Theory course
- Worked as the project supervisor of 16 teams including 2 award-winning teams in an Intra University Project Show Competition
- Helped students to understand course materials and use that knowledge in real-world projects

## Standardized Test

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<b>GRE</b>	Total: 318/340 (Quant: 166/170, Verbal: 152/170, AWA: 3.5/6)
<b>TOEFL</b>	Total: 99/120 (Reading: 20/30, Listening: 26/30, Speaking: 24/30, Writing: 29/30)

## Skills

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<b>Programming</b>	Python, Java, JavaScript, C/C++, SQL
<b>Miscellaneous</b>	Linux, Shell, $\text{\LaTeX}$ (Overleaf/R Markdown), Git, GitHub, React, Next.js, Material UI, Figma, Oracle, PostgreSQL
<b>Soft Skills</b>	Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation.

## Notable Projects

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### Security Attack Implementation Project

Team Member

- Implemented TCP session hijacking attack, ping of death attack, ping flood attack, and TCP reset attack on Telnet
- Team of 3 people
- **Technical Skills:** Telnet, Linux

### Traffic Sign Recognition

Team Lead

- Built a deep neural network model having 98% accuracy that can classify and recognize a traffic sign present in an image
- Trained model using the GTSRB dataset
- **Technical Skills:** Python
- **Soft Skills:** Teamwork, Presentation skills, Report writing

### Inova Furniture BD

Front-end Developer

- Implemented the frontend of the website of Inova Furniture BD using React and Material UI
- Integrated API using GraphQL and Apollo client
- **Technical Skills:** ReactJS, Material UI, React and GraphQL API Integration using Apollo Client
- **Soft Skills:** Teamwork, Logical Thinking

### Bookflix

Front-end Developer

- Developed modern and interactive front-end using React and Material UI
- Developed the core feature: user-preference based infinite scrolling
- **Technical Skills:** ReactJS, Material UI, React and GraphQL API Integration using Apollo Client
- **Soft Skills:** Presentation skills, Teamwork, Logical Thinking

## Volunteer Experience

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### Bangladeshi Women in Computer Science and Engineering

President

January, 2021 - May, 2022

- Arranged a contest programming workshop followed by a programming contest on VJudge
- Organized a project showcasing competition and a workshop on software development using Laravel

### IEEE Computer Society BUET Student Branch Chapter

Publication Committee Chair

February, 2021 - May, 2021

- Arranged multiple tech talks on Software Development & Research Works
- Organized an online Capture The Flag competition

### BUET System Analysis, Design & Development Community

Volunteer

June, 2020 - Present

- Organized and hosted several panels on higher studies in abroad and mental health in higher studies

## Achievements

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- 2022 **Runners Up**, HerWill Datathon
- 2021 **Dean's Merit Award**, Bangladesh University of Engineering and Technology (BUET)
- 2021 **Runners Up**, Ada Lovelace Datathon
- 2020 **Winner**, Covid-19 Idea Contest by IEEE BUET SB
- 2019 **Dean's Merit Award**, Bangladesh University of Engineering and Technology (BUET)
- 2017 **Talent Pool Scholarship, Merit Position: 1 (Dhaka Board)**, Higher Secondary School Certificate Exam
- 2014 **Talent Pool Scholarship, Merit Position: 66 (Dhaka Board)**, Secondary School Certificate Exam

## References

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### **Dr. A K M Ashikur Rahman**

Professor, Department of CSE, BUET

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### **Dr. Md. Shamsuzzoha Bayzid**

Associate Professor, Department of CSE, BUET

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