

# SAEM HASAN

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GitHub | LinkedIn | LeetCode

Dhaka, Bangladesh

## Summary

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I am currently conducting research in the field of bioinformatics phylogeny, specifically analyzing and inferring species and gene trees. My main objective is to enhance summary methods to better comprehend the evolutionary connections among biological entities.

## RESEARCH INTERESTS

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- **Bioinformatics**
- **Machine Learning**
- **Database**

## EDUCATION

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- **Bangladesh University of Engineering and Technology (BUET)** (July 2023 - Present)  
M.Sc. in Computer Science and Engineering (CSE)
- **Bangladesh University of Engineering and Technology (BUET)** (April 2018 - May 2023)  
B.Sc. in Computer Science and Engineering (CSE)  
CGPA: 3.96/4.00 Merit Position: 3/129
- **Dhaka City College** (2017)  
H.S.C.  
GPA: 5.00/5.00
- **Muragnagar D.R. Govt. Pilot High School** (2015)  
S.S.C.  
GPA: 5.00/5.00

## TECHNICAL SKILLS

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- **Languages:** C, C++, Java, Python, x86 Assembly, Bash
- **Frameworks:** Django, React.js, JavaFX, Tensorflow, LaTeX
- **Dev Tools:** Git, Visual Studio Code
- **Databases:** Oracle, MySQL, PostgreSQL
- **Other Skills:** Machine Learning

## RESEARCH EXPERIENCES

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- **Iterative ScribbleDom**  
Supervisor: **Dr. Mohammad Saifur Rahman**  
Iteratively guiding the model to learn from the user's scribbles.

- **Extension of PMAO**  
Supervisor: **Dr. M. Sohel Rahman**
- **STELAR: Beyond Rooted Gene Trees**  
Supervisor: **Dr. Md. Shamsuzzoha Bayzid**  
We are updating STELAR to estimate species trees even from rooted gene trees.
- **Phylogenomic Inference in the face of Species Tree Terraces: Challenges and Opportunities.**  
Supervisor: **Dr. Md. Shamsuzzoha Bayzid**  
We analyzed the challenges and opportunities presented by species tree terraces and explored ways to enhance current summary methods using them.
- **Improving QT-GILD: Quartet-based gene tree imputation using deep learning improves phylogenomic analyses despite missing data.**  
Supervisor: **Dr. Md. Shamsuzzoha Bayzid**  
We attempted to enhance the QT-GILD paper by rectifying the gene tree's estimation error.

## WORK EXPERIENCE

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- **Instructor**, IAC, Bangladesh University of Engineering & Technology      October 2023 – Present
  1. Training Course: Business Analytics 29th Batch
  2. Training Course: Business Analytics 28th Batch
  3. Programming Virtual Classes for BUET 2022 Batch
- **Lecturer**, Bangladesh University of Engineering & Technology      October 2023 – Present
  1. (January 2024) Course Instructor @ Computer Architecture (CSE 209)
  2. (January 2024) Course Instructor @ Computer Architecture Sessional (CSE 210)
  3. (January 2024) Course Instructor @ Simulation and Modeling Sessional (CSE 412)
  4. (January 2024) Course Instructor @ Data Structures and Algorithms I Sessional (CSE 106)
  5. (January 2024) Course Instructor @ Object Oriented Programming Language Sessional (CSE 108)
  6. (January 2024) Course Instructor @ Technical Writing and Presentation (CSE 200)
  7. (January 2024) Course Instructor @ Structured Programming Language Sessional (CSE 102)
  8. (July 2023) Course Instructor @ Computer Architecture (CSE 305)
  9. (July 2023) Course Instructor @ Computer Architecture Sessional (CSE 306)
  10. (July 2023) Course Instructor @ Digital Logic Design Sessional (CSE 206)
  11. (July 2023) Course Instructor @ Computer Programming Sessional (CSE 282)
  12. (July 2023) Course Instructor @ Structured Programming Language Sessional (CSE 102)
- **Adjunct Lecturer**, Bangladesh University of Engineering & Technology      June 2023 – October 2023
  1. (January 2023) Course Instructor @ Computer Security Sessional (CSE 406)

2. (January 2023) Course Instructor @ Software Development Sessional (CSE 408)
3. (January 2023) Course Instructor @ Database Sessional (CSE 216)
4. (January 2023) Course Instructor @ Data Structures and Algorithms I Sessional (CSE 106)
5. (January 2023) Course Instructor @ Object Oriented Programming Language Sessional (CSE 108)

## PROJECTS

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- **Travello.** Github  
Software Development Sessional  
**Tools & Technologies:** React.js, Django, RestAPI, PostgreSQL, Git  
Travelers can explore various locations on the website Travello. It will assist them in locating appropriate hotels, places to eat, and food in tourist areas.
- **ESPN CRIC-INFO.** Github  
Database Sessional  
**Tools & Technologies:** Django, Oracle, Javascript  
ESPN CRIC-INFO is a website that provides scorecards for various cricket events worldwide.
- **BERTSerini.** Github  
Machine Learning Sessional  
**Tools & Technologies:** Python, Pytorch  
BERTSerini is an end-to-end question-answering system that integrates BERT with the open-source Anserini information retrieval toolkit.
- **TCPW BR: A Wireless Congestion Control Scheme Base on RTT**  
Computer Networks Sessional  
**Tools & Technologies:** NS-3  
TCPW BR algorithm enhances the wireless network's ability to judge congestion and random errors.
- **Online Ticket Reservation System** Github  
Object Oriented Programming Language Sessional  
**Tools & Technologies:** Java, JavaFX, MySQL  
The Online Ticket Reservation System app allows you to book bus/train/movie tickets.
- **FIFA 18** Github  
Structured Programming Language Sessional  
**Tools & Technologies:** C, iGraphics  
FIFA 18 is a computer simulation of two-dimensional football.

## References

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- **Dr. Md. Shamsuzzoha Bayzid**  
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- **Dr. Mohammad Saifur Rahman**  
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## Declaration

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- I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned.