

# TATHAGATA DEY

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## EDUCATION

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**Master of Technology in Computer Science and Engineering**, Indian Institute of Technology Bombay (IIT Bombay), Mumbai, India Expected 2024

Relevant Coursework: CS 601, CS 618, CS 699, CS 725, CS 744, CS 772, CS 736, CS 691, CS 694, CS 899.

**Bachelor of Technology in Computer Science and Engineering**, Govt. College of Engineering and Textile Technology, Kolkata, India 2018 - 2022

Grade: 9.13

## PUBLICATIONS

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**Sen D., Dey T., et al.**, Applications of alignment-free sequence descriptors in the characterization of sequences in the age of big data: a case study with Zika virus, SARS, MERS, and COVID-19, Big Data Analytics in Chemoinformatics and Bioinformatics, Elsevier, December 2022

**Biswas S., Manna S., et al.**, Identification of Generalized Peptide Regions for Designing Vaccine Effective for All Significant Mutated Strains of SARS-CoV-2, Combinatorial Chemistry High Throughput Screening 24, June 2021

**Vracko M., Basak S., et al.**, Cluster analysis of coronavirus sequences using computational sequence descriptors: With applications to SARS, MERS and SARS-CoV-2 (CoVID-19), Current Computer - Aided Drug Design 17(7), February 2021

**Dey T., Chatterjee S., et al.**, Identification and Computational Analysis of Mutations in SARS-CoV-2, Computers in Biology and Medicine 129(2):104166, December 2020

**Chatterjee S., Dey T., et al.**, Emergence of a Pathogenic Strain of COVID-19, J Bioinform Syst Biol 2020; 3 (4): 081-091 , October 2020

**Biswas S., Dey T., et al.**, Novel Algorithms for In Silico Peptide Vaccine Design with Reference to Ebola Virus, IEEE International Conference on Computer, Electrical Communication Engineering (ICCECE), October 2020

**Dey T., Chatterjee S., et al.**, New Computational Analysis to Identify the Mutational Changes in SARS-CoV-2, MOL2NET, International Conference Series on Multidisciplinary Sciences USINEWS-04, May 2020

**Dey T., Biswas S., et al.**, 2D Polar Co-ordinate Representation of Amino Acid Sequences With some applications to Ebola virus, SARS and SARS-CoV-2 (COVID-19), MOL2NET 2020, International Conference on Multidisciplinary Sciences, 6th edition session USINEWS-04, April 2020

**Biswas S., Dey T., et al.**, Emergence of a Pathogenic Strain of COVID-19, J Bioinform Syst Biol 2020; 3 (4): 081-091 , October 2020

**Biswas S., Dey T., et al.**, A novel approach to Peptide Vaccine Design for Ebola virus, MOL2NET 2019, International Conference on Multidisciplinary Sciences, 5th edition session USINEWS-03, November 2019

## PROJECTS

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**Mental Health Prediction Using Machine Learning Models**

Academic Project

*Mentor: Prof. Preethi Jyothi*

*Autumn, 2022*

We are using a dataset of 1259 entries from tech world people in USA with questions based on their personal lives. And we will try to predict the possibility of their need to engage in mental health treatment.

**Ghar Dhundo**

Academic Project

*Mentor: Prof. Bhaskaran Raman*

*Autumn, 2022*

Building a website to find various homes or apartments for buying, renting or leasing based on different demographics, features and facilities. People can engage in choosing a right place of their own when they shift to a new city, talk and interact with the seller and much more.

## Multi-threaded Web Server

Academic Project

*Mentor: Prof. Mythili Vutukuru*

*Autumn, 2022*

Built a webserver with multiple threads, capable of handling many clients at the same time over TCP sockets. HTTP requests are served successfully and also the performance bottlenecks are optimized. Proper queueing is also implemented.

## Linux Shell Functions Implementation

Academic Project

*Mentor: Prof. Mythili Vutukuru*

*Autumn, 2022*

Implemented functional properties of a linux shell. Background process, foreground process, forking, reaping, process memory management and signal handling have been implemented along with efficient testing.

## SKILLS

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<b>Programming Languages</b>	Python, C, C++
<b>ML Libraries</b>	Scikit-learn, Keras, Matplotlib
<b>Limited Exposure</b>	Matlab, HTML, CSS, JS, Git, Latex, Bash
<b>Soft Skills</b>	Hard-working, Enthusiastic to learn, Communicative, Considerate

## ACHIEVEMENTS

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- Secured **All India Rank 21** in GATE Computer Science Exam of 2022.
- Selected for **Summer Research Fellowship** in the year of 2020 at **Jawaharlal Neheru Centre for Advanced Scientific Research**, Bangalore.
- Selected as **JBNSTS Senior Scholar Awardee** in the year of 2018.

## POSITION OF RESPONSIBILITY

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- **Interview Coordinator** Dec, 2022  
Conducted placement cell tests, proctored tests on numerous occasions and managed company executives during placement season.
- **Teaching Assistant** Autumn, 2022 - Spring, 2024  
**CS 301:** Was teaching assistant in the course Automata Theory for Autumn 2022 under Prof. G. Sivakumar.  
**CS 230:** Was teaching assistant in the course Digital Logic and Computer Architecture for Spring 2022 under Prof. B. Panda.  
**CS 232:** Was teaching assistant in the course Digital Logic and Computer Architecture Lab for Spring 2022 under Prof. B. Panda.