# Enam Biswas

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## WORK EXPERIENCE

### Research Assistant for Empirical Research Support (ERS) Team

*CISPA Helmholtz Center for Information Security* [ 08/2023 – Current ]

**City:** Saarbrücken   |   **Country:** Germany

Worked in various projects -
1. **TimeLord**: An internal time management system for reaching team goals and maximizing resource allocation.
2. **Jupyter**: A web application for muli collaborative data science analysis system, bringing more functionality compared to the existing Notebook.

*Using - Python, Django, HTML, CSS, JavaScript (ChartJS, React).*

### Research Assistant - Machine Learning in Health / Smart Home

*Deutsches Forschungszentrum für Künstliche Intelligenz (Lab - COS)* [ 15/11/2021 – 01/2024 ]

**City:** Saarbrücken   |   **Country:** Germany

**Project Summary**: A home automation for older people (some might have dementia) to support them by evaluating their mobility and mental health inside the household and providing constructive feedback to the health-care provider (by minimizing the usage of human inspection, the ground truth) about their health/hygiene/ mobility using raw sensor data.

**Responsibilities**: As follows -
• Feature extraction from the raw sensor data.
• Using machine learning models to derive information close to ground truth.

*Using - Python, GitLab.*

### Student Assistant - Machine Learning and Mechatronics

*Zentrum für Mechatronik und Automatisierungstechnik (ZeMA)* [ 01/11/2021 – 31/08/2022 ]

**City:** Saarbrücken   |   **Country:** Germany

Main activities and responsibilities:
• Derive valuable insight from raw sensor data (cleaning, visualization, etc.) to automate problems in production/industry.
• To write Python API/script for robots of relevant tasks.
• To prepare Machine Learning demos of various applications.

*Using - Python, GitHub.*

## Undergraduate Teaching Assistant

*East West University, Dhaka (Bangladesh)* [ 06/09/2017 – 23/04/2019 ]

Instructed new Bachelor students in Lab and motivated them to gain desired course outcomes. Furthermore, helped the course instructor preparing laboratory materials and grading students.
**Course (Programming Language) taught**: Structured Programming (C), Object-Oriented Programming (C++), Database (MySQL), ArtificialIntelligence (Python, Prolog, MatLab), and Software Engineering (PHP, Python, MySQL).

## EDUCATION AND TRAINING

### Masters Degree in Data Science and Artificial Intelligence

*Saarland University* [ 11/04/2021 – Current ]

Website: [www.uni-saarland.de](www.uni-saarland.de)

**Courses**: Artificial Intelligence, Statistical Natural Language Processing, Statistics with R, Neural Networks Theory and Implementation, Machine Learning for Cyber Security, Machine Learning, Text-to-speech Synthesis, Attacks Against Machine Learning Models, Robustness in Machine Learning.

**Seminars**: Crowdsourcing high-quality annotations and experimental data, AI for HCI, Trustworthy machine learning.

**Thesis**: Leveraging Contextual Information for Spoiler Detection in Movie Reviews (*ongoing*)

### Commonwealth of Learning - Coursera Scholarship

*Commonwealth of Learning* [ 01/07/2020 – 31/03/2021 ]

Website: [www.col.org](www.col.org)

**Courses**: Discrete Math and Analyzing Social Graphs, Matrix Algebra for Engineers, Machine Learning.
**Specializations**: Python for Everybody, Python 3 Programming, Statistics with Python, Deep Learning, Natural Language Processing, Mathematics for Machine Learning, Generative Adversarial Neural Networks, TensorFlow Developer, TensorFlow: Advanced Techniques.

### Bachelor of Engineering in Computer Science & Engineering

*East West University, Dhaka (Bangladesh)* [ 04/05/2015 – 23/04/2019 ]

Website: [www.ewubd.edu](www.ewubd.edu)  |  **Final grade:** 1.1 (1 being the best), Summa Cum Laude  |  **Thesis:** Symptom-Based Disease Detection System In Bengali Using Convolution Neural Network.

**Related Courses**: Numerical Methods, Algorithms, Artificial Intelligence, Machine Learning, Data Mining, Statistics and Probability, Demography and Economical Statistics, Differential & Integral Calculus, Differential Equations & Special Functions, Co-ordinate Geometry & Vector Analysis, Linear Algebra & Complex Variables, Discrete Mathematics, Operating Systems, Computer Architecture, Microprocessor, Engineering Physics-I and II.
**Awards**: Full Free Scholarship for 4 years, all possible (3 times) Dean's Scholarship in 4 years of study.
**Achievement**: 26th out of 2111 students of 2020 convocation.

## LANGUAGE SKILLS

**Mother tongue(s):** Bengali

**Other language(s):**

### English
**LISTENING** C1  **READING** C1  **WRITING** C1

**SPOKEN PRODUCTION** C1  **SPOKEN INTERACTION** C1

### German
**LISTENING** A2  **READING** A2  **WRITING** A2

**SPOKEN PRODUCTION** A2  **SPOKEN INTERACTION** A2

## PUBLICATIONS

[2019]

**Symptom-Based Disease Detection System In Bengali Using Convolution Neural Network** E. Biswas and A. K. Das, "Symptom-Based Disease Detection System In Bengali Using Convolution Neural Network", 2019 7th International Conference on Smart Computing & Communications (ICSCC), Sarawak, Malaysia, Malaysia, 2019, pp. 1-5. doi: 10.1109/ICSCC.2019.8843664

[2020]

**Privacy and security perspective on social media – case Facebook [Accepted, ICTIS 2020]** This research represents an analysis of user's perspectives on their privacy over Facebook, providing an analysis of how privacy policy can be made rigid to the people and lacking.

## PROJECTS

**Undergraduate Projects**
1. Recommendation of Machine Learning Algorithm for Maintaining a Health Insurance System: The research works provide few proposals of suitable machine learning algorithms and a preferable system for any Health Insurance Company to maximize profit.
2. Sudoku Solving Using Genetic Algorithm: Developed in Python for Artificial Intelligence course. Which can solve the existing Sudoku board and generate a new Sudoku board on the basics of genetic algorithm.
3. Movie Review & Rating Website: Developed in HTML, PHP, and CSS using MySQL database for Software Engineering course. Provides a website like IMDB and similar functionalities.
4. Finding Local Food Store in Local Area: Developed in C++ on shortest path algorithmic implementation. Provides an application that suggests local food stores.
5. BanglaLink Help Menu Simulation: Developed in C++ on the basics of Object-Oriented Programming. Provides simulation program that works like BanglaLink (a telecommunication company) help menu.

**Open Source Datasets**
1. **Bangla Newspaper Dataset - ebD**: Containing almost 1.7M Bangla news articles. DOI: 10.34740/KAGGLE/DSV/1857507.
2. **IMDb Review Dataset - ebD**: Containing almost 5.5M reviews along with 1.2M spoilers from IMDb. DOI: 10.34740/KAGGLE/DSV/1836923.
3. **Place Review Dataset - Niche (USA)**: Containing more than 700,000 reviews-rating of the American neighborhood. DOI: 10.34740/KAGGLE/DSV/1842046.

## HONOURS AND AWARDS

East West University, Dhaka (Bangladesh)
**Full Free Merit Scholarship** For maintaining GPA 5.00/5.00 (5 being the height) in every subject in both High School and School level board examinations From East West University.

East West University, Dhaka (Bangladesh)
**Dean's Scholarship (Dean List)** For maintaining CGPA above 3.80/4.00 (4 being the highest) in three consecutive semesters after each year of study (Summer 2016, Summer 2017, Summer 2018).

## ORGANISATIONAL SKILLS

**General Secretary of IEEE Computer Society, EWU** I was with the IEEE Student Socicety Computer Science section of East West University (September 2018 - April 2019). I have hosted one programming contest and showed enthusiasm in recruiting members. Experienced leadership and managerial experience through accomplishing successful projects (part of course curriculum).

## JOB-RELATED SKILLS

**Programming Languages**

**Most experienced**: Scientific Python (6+ years), C (4 years), and C++ (4 years). Other expertise in MatLab, C#, Java, Prolog, Z3.
**Web Development Skills**: JavaScript, HTML, CSS, Bootstrap, PHP, MySQL.

**Other Skills**: Professional document editing (Research paper writing, editing) in Microsoft Office and LaTeX.