

Iftakharul Islam

Curriculum Vitae



Personal Information

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Nationality Bangladeshi

Date of Birth 27.12.1997

Studium

10/2022 - Present **Master of Science Computational Linguistics,**
Universität Stuttgart, Stuttgart, Deutschland
Grade: 2,2

02/2015 - 07/2019 **B.Sc. Computer Science and Engineering,**
Bangladesh Army University of Science and Technology, Bangladesh,
Grade: 2.4
(Best Thesis: *Correcting Bangla Spelling Errors using clustering algorithm and modified dictionary* Note: 1,00 Notable Bachelor thesis)

Work Experience

September 2024 - **Praktikum in the field of VR/Extended Reality/Metaverse, Bosch,**
March 2025 *Bühl, Baden-Württemberg, Deutschland (Hybrid)*

- Participation in the design and simulation of a virtual factory, including the assembly and manufacturing of machine components using AGVs and robots.
- Investigation and technological analysis of the current state of the art in the areas of Digital Twin, Metaverse, and 3D scanning.
- Identification of use cases for potential application areas at a production and development site, including the implementation of a Proof-of-Concept (PoC).
- Independent collaboration with external and internal interface partners.

July 2023 - **Wissenschaftlicher Mitarbeiter, Duale Hochschule Baden-Württemberg Stuttgart,**
November 2023 *Stuttgart, Deutschland*

- Work in the regional AI lab on the AI Support Platform for SMEs (KISMi), funded by the Center for Artificial Intelligence (ZfKI).
- Creation of digital twins (e.g., Fishertechnik models) in Virtual Reality using the Unity Engine.
- Use of agile methods, reporting on project activities, and structured project documentation.

June 2023 - **Studentische Hilfskraft, Höchstleistungsrechenzentrum Universität Stuttgart,**
September 2023 *Stuttgart, Deutschland*

- Support for the EuroCC and FF4EuroHPC projects, including reporting for SME experiments.
- Analysis of financial data from 30 partner countries to evaluate the budget for High Performance Computing.
- Development of interactive data visualizations in BI and Excel to translate complex data into clear, actionable insights for 22+ EU stakeholders.

- November 2021 - **Management Trainee, PRAN-RFL Group, Bangladesh**
 May 2022
- Led a team of 25 area managers across 64 regions, resulting in a 20% increase in regional sales and efficiency.
 - Analyzed sales data from 287 branches and created a dashboard in Power BI.
 - Achieved \$10 million in revenue with the business unit (Vision Emporium).
 - Developed a knowledge base for internal software systems, reducing onboarding time by 60%.

Research Experience & Project

- 2020 **Bangla Spell Checker: A State of the Art, BAUST Journal, V.01 (ISSN 2708-9835), Bangladesh**
- Published in the BAUST Journal, available at BAUST Journal - Article 6.
 - Explored methods for detecting misspelled Bangla words and providing ranked suggestions.
 - Reviewed historical and current methodologies, highlighting limitations, challenges, and unexplored areas in Bangla spell-checking research.
 - Provided an overview of past research and a roadmap for future contributions in this field.
- 2019 **Correcting Bangla Spelling Errors Using Clustering Algorithm and Modified Dictionary, Undergraduate Thesis, Bangladesh**
- Focused on addressing spelling errors in Bangla, a language with 49 alphabets and significant phonetic similarities.
 - Curated a dataset through web scraping, followed by data cleaning and tokenization.
 - Developed a modified dictionary using the k-means clustering algorithm, addressing challenges with the number of clusters by implementing affinity propagation.
 - Used the Damerau-Levenshtein edit distance algorithm to match input words with the modified dictionary.
 - Proposed solutions to tackle complexities in Bangla spelling correction and contributed to Bangla NLP research.

- 07/2018 – 12/2019 **InSafety: An Android Application to Stop Violence, Hackathon Project**
- Developed an anti-harassment application aimed at reducing violence, following proper software development principles.
 - Designed primarily for general Android devices, primarily designed for female workers using public transport daily.
 - Implemented a secure messaging feature to automatically alert nearby police patrol units in case of emergency.
 - Created a fully operational website to report crime and domestic violence.

Zusatzqualifikationen

- 2022 - Present
- o **Student Representative:**
 acting as a buddy at Fachgruppe Maschinelle Sprachverarbeitung, and providing support to physically challenged students, helping them navigate academic and social aspects of university life

Skills

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| Programming | Python, C++, R, \LaTeX , C# |
| Libraries | PyTorch, PClbex, Matplotlib, numpy, pandas, openCV |
| Others | Linux, Git, ssh |
| Communication | Bangla(native), English(Fluent), German(A2.1) |