



Ashiqur Rahman Rahul

Curriculum Vitae

Engineer

I am looking forward to a challenging and exciting opportunity with a top institution, where I can work diligently with a high-functioning team that will facilitate the execution of my engineering, digital research, technical, and cooperative communication abilities.

Email : ashiqurrahul2506@gmail.com
Address : Othmarscher Kirchenweg 103 a, 22763 Hamburg, Germany
Mobile : +49 1638723454
Link : [Linkedin](#)

WORK EXPERIENCE

Research Associate

07/2024 - Current

Cambridge Centre for Alternative Finance (CCAF)
Cambridge Judge Business School
University of Cambridge
Trumpington Street, Cambridge. CB2 1AG (*Location: Remote*)

Primary Responsibilities:

- **Research activities:** AI Framework Development, Transfer Learning & Model Fine-Tuning, Energy Efficiency Research, Data Analysis & Model Optimization, Scientific Writing & Reporting, Developing Sustainable AI Strategy, Designing FinTech systems, Developing diagnostic systems for energy profiling, Collaboration with Stakeholders, Data Privacy & Compliance.
- **Core tasks:** GPU and TPU Hardware setup, Software environment setup, Energy Analysis, AI model training and optimization, Programming support (Python, R programming, Nvidia CUDA), Computer Vision, NLP analysis, LLM model design.

Student Assistant (Research)

04/2024 – 09/2024

Hamburg University of Technology (TUHH)
Am Schwarzenberg-Campus 1, 21073 Hamburg

Appointed by Prof. Dr.-Ing. Sohan Lal., [Massively Parallel Systems Group (E-EXK5), TUHH]

Primary Responsibilities:

- **Research activities:** Embedded system design, GPU hardware and architecture, Setup and optimize Nvidia Jetson Nano & Xavier, Hyperspectral Image analysis, Transfer learning, Machine learning, Deep learning, and GPU Multiplatform optimization.
- **Core tasks:** Hardware setup, Software environment setup, Conducting simulations, Computer Vision, Study material preparation, Scientific writing, Technical report writing, Programming support (Python, C++, MATLAB, Nvidia CUDA), Operate Linux systems, Conducting numerical Analysis, and manage projects on GitHub.

Research Assistant

06/2019 - 08/2021

Hanbat National University
Daejeon, Korea

Appointed by Dr. Saifur Rahman Sabuj ([email](#))

Primary Responsibilities:

- **Research activities:** Communication system design, Developing IoT system, and modelling cognitive networks.
- **Core tasks:** IoT system Design, Engineering Research, Document typesetting in Latex, designing system architecture, Hardware setup and simulation, MATLAB support, Python support, MS Excel, and Academic writing assistance (Journal, Book Chapter, and Research Surveys).

Journal Reviewer

09/2020 - 09/2021

Science Publishing Group
Rockefeller Plaza, New York, NY 10020

Reviewer for "Advances in Wireless Communications and Networks (AWCN)"

Primary Responsibilities:

- Providing technical, impartial, and reviews on the intellectual merits and the scientific credibility of the research promptly.
- Achievements: Reviewed over 12 international Journals/Articles, 3 Book chapters.

EDUCATION

Master of Science in Microelectronics and Microsystems

10/2021 - 2025

Hamburg University of Technology (TUHH)
Am Schwarzenberg-Campus 1, 21073 Hamburg

Specialization: Embedded Systems, Microsystem Technology.

Current core objectives:

- **Major Courses:** Microelectronics System Design, Microsystem Technology, GPU Architecture, Sustainable Technology Management, Energy Efficiency in Embedded Systems, Communication Networks.
- **Ongoing Projects:** Hyperspectral Image Analysis, Hyperspectral Anomaly Detection, Nvidia Jetson GPU setup, Optimizing Data Transfer with TFBS4650 Infrared Transceiver and Microcontrollers.

Bachelor of Science in Electrical and Electronic Engineering

12/2014 – 05/2019

Brac University

66 Mohakhali, 1212 Dhaka (Bangladesh)

Specialization: Communication Engineering, Computer Engineering.

Core objectives:

- **Major Courses:** Research Methodology, Electronic Devices, Microcontrollers, Energy Conversion, Information Systems, Microwave Engineering, Data Communications, Wireless Communication, Digital System Designing.
- **Thesis:** Performance Analysis of Cognitive Unmanned Aerial Vehicle. [(Thesis Paper: [Link](#))]

SKILLS

MS Word | MS Excel | MS PowerPoint | MS Access | Python | MATLAB | Simulink | C, C++ | R programming | Circuit designing: KiCad | Hardware setup (Embedded, IoT) | AI Framework Development | Computer Vision | Generative AI | AWS | Azure | Natural language processing (NLP) | Large Language Model (LLM) design | OpenCV | Tensorflow | Pytorch | Linux Systems | Visual Studio | MATLAB Simulink | Proteus Design Suite | COMSOL Software | Autodesk Fusion 360 | SQL | Machine Learning | Deep learning | Nvidia GPU setup | Excel VBA | Latex typesetting | Nvidia CUDA | Digital Research | Academic Writing | Academic Publication | Technical Project Management | Market Research | Git Operations (GitHub, GitBook) | Mathematical Analysis | Data Analysis & Model Optimization | Model Fine-Tuning | Proprietary Data Handling | GPU Applications | Operating Edge Devices- Jetson Nano, Jetson TX2, Raspberry Pi & AGX Xavier.

JOB-RELATED EXPERTISE

Based on my Professional and Academic career, I hold the following job-related technical expertise:

- **AI skills:** Architecture design, OpenCV, Machine Learning, Deep learning, Computer vision, Generative AI, NLP, LLM.
- **MATLAB skills:** Signal processing, Advanced calculation, Simulink operations.
- **Microsoft Office Applications:** Access, Excel, PowerPoint, Publisher, Word, and Visio. | VBA for MS Excel.
- **Document Processing:** MS Office, MS Syntax, Gitbook, and typesetting in Latex.
- **Systems:** Windows, Linux Systems, Git Operations (GitHub, GitBook)
- **Electrical/ Electronic Design:** KiCad, Proteus, COMSOL, Pspice, Autodesk Fusion 360.
- **Microcontrollers:** Arduino UNO, Raspberry Pi, atmega32.
- **Embedded/Edge GPU:** CUDA, Nvidia Jetson Nano, AGX Xavier, and Jetson TX2.
- **Python 3 Expertise:** Numerical Analysis, AI, Tensorflow, Pytorch, Data Structures, SQL, IoT systems, Machine learning, Deep learning.
- **Cloud Computing Services:** AWS, Azure.

LANGUAGE EXPERTISE

Bengali - Native proficiency (Mother tongue) | **English** - Native or Bilingual proficiency (C2) | **German** - Limited working proficiency (A2) | **Hindi** - Professional working proficiency (B1).

PUBLICATIONS

During my tenure as a Research Assistant, I published the following Journals/ Articles.

- "Cognitive Unmanned Aerial Vehicle-aided Human Bond Communication System: Modelling and Performance Analysis" [Published in IEEE Xplore (2022), ([Publication Link](#))].
- "An Optimization-based Approach to Enhance the Throughput and Energy Efficiency for Cognitive Unmanned Aerial Vehicle Networks" [Published in 'Wireless Networks (2020), Springer. ([Publication Link](#))].
- "Cognitive IoT-based Health Monitoring Scheme using Non-Orthogonal Multiple Access" [Book Chapter accepted in Wiley Book ([arXiv link](#))].

PROJECTS

- Designed and implemented a Visitor Counter for a Zoo using an Atmega32 microcontroller in Proteus software.
- Implemented an Automated Human Following Trolley using GPS, compass modules, and 'Blynk' application.

- Applied a Temperature Box project involving closed-loop control systems.
- Executed a MATLAB project on Spectrum Sensing in Cognitive Radio Network for improved spectrum utilization.

HONOURS AND AWARDS

Vice Chancellor's List Award, BRAC University

Maintained a GPA of 3.95/4.00 in the Final semester 2019.

Dean's list Award, Brac University

Maintained a GPA of 3.85/4.00 in the spring semester 2018.

ORGANIZATIONAL, COMMUNICATION, WORKSHOPS, AND INTERPERSONAL EXPERIENCE

- **Ambassador (04/2018 - 04/2019), SONGKOLPO Foundation:** Organized events, procured resources, promoted foundation activities, and recruited 70 volunteers for "Songkolpo School".
- **Rapporteur and Volunteer Leader, Nutrition Olympiad 2018:** Analyzed sessions, published reports by FAO, BIID, and USAID.
- **Assistant Director & Scriptwriter (05/2015–08/2015):** Contributed to script writing and filmmaking for two short films.
- **Executive Member, Robotics Club of BRAC University (ROBU) (09/2015–12/2017):** Provided programming support, designed automated vehicles, and offered technical consultation.
- **Workshop Participant, Bangladesh Youth Leadership Center (BYLC) (05/2018):** Enhanced communication skills, learned market research, SAP management, and business case study. Completed leadership training based on Harvard curriculum, developing critical thinking and problem-solving skills.