

Ghufran Ullah

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EDUCATION QUALIFICATION

Masters in Information and Communication (Data Analytics) September 2024 – August 2026
University of Turku

- **Ongoing Coursework:** Statistical Data Analysis, Data Analytics and Knowledge Management, Pattern Recognition and Evaluation of Machine Learning, Deep Learning, Textual Data Analysis, and Probabilistic Programming.
- **Grade:** 5/5

Masters in Computer Science and Applications August 2019 - July 2022
Aligarh Muslim University

- **Grade:** 8.8/10
- **Thesis topic:** Islamophobic Tweet Detection Using Transfer Learning.
- National Merit cum Means Scholarship awardee.

Bachelors in Science (Hons.), Computer Applications August 2016 - June 2019
Aligarh Muslim University

- GPA 7.4/10.
- Member of Computer Science Society, AMU.
- **Relevant Coursework:** Object-oriented programming, statistics, calculus, linear algebra, data structures in C++, database in SQL, and Linux programming.

PROFESSIONAL EXPERIENCE AND INTERNSHIPS

1. **Junior Research and Development Engineer (August 2022 - September 2023)**
Vedic Info Systems

- Implemented a deep learning pipeline using U-Net and CNN architectures to process real-time echocardiographic and angiographic data for aneurysm detection. Applied OpenCV for vessel segmentation and morphological feature extraction. Achieved an 8% improvement in detection accuracy compared to baseline models, with a Dice similarity coefficient of 0.87.
- Collaborated with cross-functional teams, including medical experts and software engineers, to translate echocardiograms into technical solutions.

2. **Data Scientist and Business Analyst Internship (June-July, 2022)**
The Sparks Foundation

- Worked on a project investigating students' examination mark fluctuations using linear regression, logistic regression, and random forest for analyzing student data, and accurately forecasted students' academic performance with 90 percent accuracy and identified ten key factors influencing exam outcomes
- Evaluated five peers' work and gave feedback to them.

3. **Graphic Designer and Web Developer (October 2019-October 2020)**
The Wings of Desire

- Conducted interviews with 10 organizational stakeholders to gather requirements and collaborated with the development team to design a user-friendly website.
- Created visualization and graphics (posters, photos, and charts), as well as used PowerPoint and Adobe Photoshop for designing posters.

RESEARCH WORK AND PROJECTS

1. Suicidal Tweet Detection

Deep Learning, Natural Language Processing, Sentiment Analysis

- Created a dataset of 10,600 tweets by scraping using Tweepy and Academic Twitter API and designing a classifier for flagging tweets as suicidal and categorizing them as suicidal, depressed, or neither. It is currently in the annotation data phase in collaboration with the Psychology Department at AMU.

2. Islamophobia Tweet Detection System (April-September, 2022)

Deep Learning, Natural Language Processing, Sentiment Analysis

- Created a dataset of 874 tweets by scraping using SNScrape and Academic Twitter API, had it annotated, and built an automated system based on Universal Language Model Fine-tuning for Text Classification (ULMFiT) to classify the tweet in Islamophobic, racist, or neither category.
- Paper published by IEEE and presented at International Conference IEEE CSI-22.

3. Rapid Face Mask Detection and Person Identification Model (August-December, 2021)

Deep Neural Networks, Insight Face Framework, Computer Vision

- Responsible for creating an image dataset for masked and unmasked images and was also responsible for modeling to categorize the photos into Masked, No Mask, Face Detection, and Person Identification.
- Paper presented at the International Conference on Intelligent Computing and Security IICS-2021 on 17 December 2021.

4. Classification of Diseased and Rotten Potatoes (January-March, 2022)

Deep Learning, Machine Learning, Computer Vision

- Responsible for training to categories potatoes into rotten (97 per cent efficiency), diseased, and healthy and creating the datasets.
- Presented at IEEE's 4th Sustainability and Resilience Conference in Bahrain.

5. Alumni Database System (January-July, 2019)

HTML, CSS, PHP

- Created a web-based application for alums to register and interact with their respective universities.
- Implemented application features such as collection, processing, retrieval, and analysis of university alumnus data.

PUBLICATIONS:

1. **Ullah G.**, Mohammad Amir, Imran Rasheed, “*Applications of Machine Learning in the Prediction of Cardiovascular disease: A systematic review*” of Recent Literature submitted to **ASME-Journal of Applied Mechanics Reviews** (Under Peer Review).
2. **Ullah G.**, Maaz Shamim, Abdul Sami Farshori, Imran Rasheed, “*Advances in Neural Network Models for Sentiment Analysis: A Review*” submitted to **Springer-Artificial Intelligence Reviews** submission id: “ff4ff9db-65c8-42de-924a-5b6e33623a1d” (Under Peer Review).

3. Noor Fatima, **Ullah G.**, Mohd. Belal, Raza Imam, Preeti Verma (1-2 November 2022) “[Computer Vision-Based Quality Analysis of Potatoes](#)” presented at 4th Sustainability and Resilience Conference, Bahrain, published by IEEE.
4. **Ullah G.**, Mohd. Belal, Abdullah Ahmad Khan (1-2, September 2022) “[Islamophobic Tweet Detection using Transfer Learning](#)” presented at International Conference on Connected Systems and Intelligence (CSI 2022) published by IEEE.
5. Abdullah Ahmad Khan, **Ullah G.**, Mohd. Belal (17-18, December 2021) “[Rapid Face Mask Detection and Person Identification Model based on Deep Neural Networks](#)” presented at the International Conference on Intelligent Computing and Security (IICS-2021), GL Bajaj, Noida.

AWARDS AND FELLOWSHIPS:

1. **International Scholarship Award:** Recipient of scholarship for the master’s program at the University of Turku.
2. **International Fellowship Award:** Recipient of **Taiwan International Graduate Programme (TIGP)** scholarship granted by **Academia Sinica, Taiwan** (2022).
3. **Best paper presentation award** at the International Conference on Intelligent Computing and Security (IICS-2021), GL Bajaj, Noida (17-18 December 2021).
4. Awarded the Central Government's Merit-cum-Means Annual Scholarship for the academic sessions of 2019 and 2020.

LEADERSHIP AND VOLUNTEERING

1. **Student Tutor** **2025-26**
University of Turku
 - Assisted international degree students by organizing campus tours and introducing essential services
 - Facilitated group-building activities to support social integration, shared practical guidance on housing, healthcare, and student life.
2. **Aaghaz: A Ray of Hope** **2021-22**
Campus Ambassador
 Coordinated awareness camps, conducted teaching sessions for underprivileged students, and analysed district census data on behalf of the medical checkup team.
3. **Department of Computer Science, AMU** **2021-22**
Member of the Data Management Team
 Collected 80 students’ records and departmental data for the Training and Placement Office for more than 40 Tech companies visiting for placement purposes.
4. **Department of Computer Science, AMU** **2019-21**
IT Coordinator
 Organised placement meets and provided technical support for the Training and Placement Office, Department of Computer Science, AMU.
5. **Aligarh Muslim University** **2018-19**
Team Lead, NRSC Club
 - Part of the organizing committee for the Non-Resident Students Center (NRSC) Club, AMU.
 - Orchestrated and executed the grand annual Sir Syed Day dinner, an event attended by over 5,500 students, showcasing exceptional organizational and event management skills.

SKILLS

- **Programming Languages:** C++, Java, Python.
- **Other Languages:** HTML, Bash.
- **Libraries:** FastAI, NumPy, Pandas, Matplotlib, Seaborn, NLTK, scikit-learn, TensorFlow, PyTorch
- **Databases:** MySQL
- **Text Processing:** MS Office Suite, LATEX.
- **Related Coursework:** OOPs, Data Structure, Algorithm, Statistics, Mathematics, Deep Learning, Machine Learning, Networking.
- **Tools:** Eclipse, PyCharm, Spyder, Visual Studio, Jupyter Notebook.

ACADEMIC WORKSHOPS AND TRAINING

- Participated in an educational workshop on **Responsible AI for peace and security** organized by the United Nations Office for Disarmament Affairs (**UNODA**) and the Stockholm International Peace Research Institute (**SIPRI**) in Brussels, Belgium, on 21-22 November 15, 2024.
- Two-day “**Data Science on Python & Excel**” workshop coordinated by the Faculty of Science, AMU (2021).
- Five-day Online Continuing Education Program on “**Python for Scientific Computing**” conducted by the Department of Computer Science and Engineering, NIT Warangal (2021).
- Attended a Webinar on “**Research Methodology**” organized by the Department of Electrical Engineering, ZHCET, AMU, Aligarh (2020).
- Attended workshop on “**Machine Learning using Python**” conducted by Ducat Organization in collaboration with the Training and Placement Office, AMU, Aligarh (2019).

PROFESSIONAL MEMBERSHIPS

1. **International Association of Engineers (IAENG)**
Membership Number: 338305
2. **The International Society for Applied Computing (ISAC)**
Membership Number: RM2023092002