

MOHD AZHAN UMAR KAMIL

Department of Computer Engineering
Aligarh Muslim University

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Education

Aligarh Muslim University [🔗](#) August 2020 – May 2024
(4-Year) Bachelor of Technology in Computer Engineering - 8.516/10 CPI (Upto 6th Semester) 📍 Aligarh, India

Relevant Coursework :

Object Oriented Programming, Applied Machine Learning, Natural Language Processing, Data Mining, Design & Analysis of Algorithms, Operating Systems, Computer Graphics, Computer Networks, Theory of Computation, Computer Architecture, Digital Logic and System Design, Database Management System, Discrete Mathematics, Higher Mathematics.

Experience

APJ Abdul Kalam STEM-ER Centre, AMU and Ohio State University [🔗](#) November 2022– May 2023
Research Intern Under - [Dr. Saiful Islam](#) [🔗](#) 📍 Aligarh, India

- Modified lightweight model SincNet for ECG recognition and classification of cardiovascular diseases.
 - Implemented the Model within the Web application with Integrated ECG Sensor (AD8232) Via Bluetooth using STM32 Nucleo and ESP32 Board.
- [\[Certificate\]](#) | [\[Oral Presentation\]](#)

Department of Computer Engineering, AMU [🔗](#) October 2021 – May 2022
Deep Learning Intern Under - [Mr.M.A. Qadeer](#) [🔗](#) 📍 Aligarh, India

- Developed a deep learning model for COVID-19 and Common Pneumonia detection from Chest CT-Scan Images, Trained the model on a dataset consisting of 155,936 images.
- Utilized EfficientNet B4 as the model backbone, requiring lower computational power.
- Achieved high F1-Scores: 0.9 for COVID-19, 0.9 for Normal cases, and 0.8 for Common Pneumonia, employing data augmentation and Reduce on Plateau learning rate decay.

SSAMUSAT [🔗](#) August 2022 – May 2023
Part-time (Handling Payload & Ground Station) 📍 Aligarh, India

- Developed Ground Station's [GUI](#) using Google Cloud Console, Grafana to monitor real-time telemetry.
- Demonstrated a Novel onboard Image Compression Technique (ZM-SPECK) for faster image transmission.

Projects

IoT based Integration in Monitoring Realtime Health and ECG Validation [Link](#) [🔗](#)

- Project combined hardware and software components to create a seamless and robust system that offers continuous health tracking and ECG signal Classification of cardiovascular diseases.
- Integrated 2 sensors on a single (SDA, SCL Pins) by manipulating clock frequency of Read & Write of each sensor.

Rank Calculator Using College's Result Processing Website (Fun Project) [Link](#) [🔗](#)

- Developed Python and Selenium-based automation to rank students based on academic performance, optimizing the process with data-driven efficiency.

NOAA Weather Satellite Signal Decoding and Image Reception [Link](#) [🔗](#) | [\[Slides\]](#)

- In this project, I embarked on an exciting endeavor to track and receive images from weather satellites, specifically NOAA 15, using a software-defined radio (RTL-SDR) setup.
- The goal was to harness this technology to capture and process weather imagery directly from orbiting satellites, enabling the acquisition of real-time weather data.

Unscramble words App [Link](#) [🔗](#)

- Designed and developed a captivating Unscramble Words game app using Java. Published on Google Play, the app challenges users to unravel jumbled words, enhancing their vocabulary and cognitive skills.

IEEE Student Branch, AMU Website [Link](#) [🔗](#) and **WIE (Women in Engineering), AMU Website** [Link](#) [🔗](#)

- Created full-stack website for IEEE Student Branch and WIE (Women in Engineering) at AMU (Aligarh Muslim University) using WordPress with Elementor tool.

Publications

- Razim, A., **Kamil, M.A.U.** (2022). Deep Learning-Based Efficient Detection of COVID-19. In: Suma, V., Baig, Z., Kolandapalayam Shanmugam, S., Lorenz, P. (eds) Inventive Systems and Control. Lecture Notes in Networks and Systems, vol 436. **Springer, Singapore.** https://doi.org/10.1007/978-981-19-1012-8_24 | [\[Pdf\]](#)
- **Kamil, M.A.U.**, M. Rahman, A. Waseem, M.D. Ali and M.T.K. International Research Journal of Engineering and Technology (**IRJET**) Vol 10. Issue(08) (2023) pp. 444-451. "Review: Utilizing Machine Learning Techniques for Timely Diagnosis of Parkinson's Disease." <https://doi.org/10.13140/RG.2.2.34727.11687> | [\[Pdf\]](#)
- Ahsan Waseem, Ilma Shah, **Kamil, M.A.U.** "Advancements in Signal Processing: A Comprehensive Review of Discrete Wavelet Transform and Fractional Wavelet Filter Techniques." (Accepted for Publication in IEEE ICACIC Conference.) [\[Certificate\]](#) | [\[Pdf\]](#)
- Ahsan Waseem, **Kamil, M.A.U.**, Mohammad Hassan Zaidi, Areeb Moin, Abdul Razim "Advancements in Signal Processing: A Comprehensive Review of Discrete Wavelet Transform and Fractional Wavelet Filter Techniques." (Accepted for Publication in IEEE ICMNWC Conference.) [\[Certificate\]](#) | [\[Pdf\]](#)

Technical Skills

Languages : Python, C/C++, Java, Flutter.

Technologies/Frameworks : Keras, TensorFlow, Numpy, Pandas, Matplotlib, OpenCV, PyTorch.

Tools : Git, VS Code, Android Studio, Microsoft Visio, Google Colab, Pycharm, LATEX, Google Cloud Console.

Operating Systems : Windows, Linux, macOS.

Soft Skills : Communication, Teamwork, Problem-solving, Time management, Critical thinking.

Achievements

- Secured an All India Rank 95 in the AMU Engineering Entrance Exam (AMUEEE), 2020. [List](#)
- Selected in 'Research Experience for Undergraduates' (REU) Program of the APJ Abdul Kalam STEM Education and Research Center of AMU and Ohio State University (OSU). [Decision List](#)
- Secured State Rank of 249 in International Olympiad of Science 2016.
- Orchestrated a significant MOU between ISRO's Inspace and SSAMUSAT satellite project, driving collaborative space research. [Link](#) | [\[Newspaper Cutting\]](#)

Professional Memberships & Volunteering

- International Conference of Power, Instrumentation, Energy and Control (PIECON 2023) organized by Department of Electrical Engineering, Aligarh Muslim University (Volunteer) [Certificate](#)
- Institute of Electrical and Electronics Engineers (IEEE) (Coordinator) [Certificate of Membership](#)
- National Service Scheme NSS (Volunteer) [ID-Card](#)
- SOCH. . .beyond the imagination (Volunteer) [Letter of Certification](#)
- Action Aid India (Volunteer) [Certificate](#)

Certifications

- Certificates [Link](#)