Syeed Mohd Ameen

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WORK EXPERIENCE

- **Jamia Millia Islamia *(A Central University)*** — New Delhi, IN
  *Lecturer (Guest), **Computer Engineering Section*** — *Aug 2024 - present*
  - **Subjects Taught**: Web Technology, Database Management System, Advanced RDBMS, Computer Graphics, Computer Oriented Numerical Methods, Visual Programming, Computer Application, IT System and Computer Programming

- **Indian Institute of Technology Delhi** — New Delhi, IN
  *Jr. Research Fellow, **Embedded System Laboratory*** — *May 2023 - May 2024*
  - **Research Project**: Design and development of a subsidence detection system in landslide prone hill slopes.

ACADEMIC QUALIFICATIONS

- **Master of Technology in Software Engineering** — Jun'21 - Jun'23
  *Aligarh Muslim University (AMU), **CGPA: 8.02/10.0*** — *Aligarh, India*
  - **Relevant courses**: Advance Computer Architecture, Machine Learning, Image processing and Computer vision, Big Data Analytics, Numerical and Statistical Techniques

- **Bachelor of Technology in Computer Science and Engineering** — Jun'17 - Jun'21
  *Rajasthan Technical University, **percentage: 68.01*** — *Kota, India*
  - **Relevant courses**: Data Structure, Operating System, Design & Analysis of Algorithm, Data Base Management System, Compiler Design, Embedded System, Distributed System.

KEY ACADEMIC PROJECTS

- **miniflight: Budget flight controller for drone using ATmega328p microcontroller** - repository
  A budget flight controller for drones using the ATmega328P microcontroller offers an affordable yet efficient solution for controlling the flight dynamics of drones. Designed with cost-effectiveness in mind, this flight controller provides the essential features required for stable flight control while utilizing the capabilities of the ATmega328P microcontroller.

- **AT89S52: A SPI programmer that can program AT89Sxx series of microcontrollers** - repository
  Existing programmers of AT89Sxx series of IC's are costly and very messy to use, so we design and develop a simple easy to use programmer that can program AT89Sxx Series of IC's. (simple drag and drop hex file in serial terminal program)

- **Smart city integration using google voice kit**
  I led the creation of a web-based smart city monitoring system, integrating various sensors and databases using MySQL. My specific role involved implementing the Google Voice Kit for efficient voice message broadcasting, contributing to a comprehensive solution for online smart city monitoring.

- **8051 FPU: Fast floating point subroutines support for 8051 microcontroller** - repository
  Designed and implemented Fast Floating Point Subroutine for the 8051 microcontroller, enhancing its computational capabilities with efficient IEEE 754 floating-point arithmetic for high-speed and precise calculations in resource-constrained environments.

- **glucose: A open source smart watch ecosystem.** - repository
  Designed and developed a wearable device to monitor health metrics such as **blood oxygen saturation (SpO2)** and **heart rate**, with a focus on simplicity, cost efficiency, and modularity for elderly users.

- **MCS51: A assembler for MCS-51** - repository
  An advanced assembler for MCS-51 architecture to programming by supporting custom instructions beyond the standard ISA.

Research Experience

- **Master of Technology Thesis:**
  Energy efficient heterogeneous multi-core architecture for edge computing devices.

- **Bachelor of Technology Project:**
  Design and Development of a Wearable Device for ECG Monitoring Using ESP32 SoC.

- **AMURoboclub** <div align="right">Aligarh, IN</div>
  PG Representative <div align="right">*Jun 2022 - Jun 2023*</div>
  - Taking various workshops on (STM32, Arduino, Raspberry pi) development board.
  - Supervise different projects group in the lab.
  - Manage ABU Robocon (Asia Pacific Robot contest) team as leader and mentor.

- **i-Robotics Lab** <div align="right">Jaipur, IN</div>
  Software Engineer <div align="right">*Jul 2018 - Feb 2019*</div>
  - Develop flight controller firmware using STM32 AVR series of microcontroller (all the low-level subroutines written in assembly language in order to optimize every single byte and performance).
  - Testing and debugging the raw data of accelerometer, gyroscope.
  - Design flight controller PCB on Eagle EDA software.

Publications

- : Saeed Akhtar, Rashid Ali,***Syeed Mohd Ameen***; Predicting the surface elastic parameters of soft solids using multi-output decision tree regressor. AIP Conf. Proc. 2 July 2024; 3168 (1): 020024.
  https://doi.org/10.1063/5.0219700
- : ***Syeed Mohd Ameen***, Yunus Kathat, Sunny Kr Shah, Kapil Kr Jangid, Ritika Sharma, "Implementation Graph Search Technique on A Navigation Line Follower Robot" IJSRED-V4I4P103 Page(s): 731-735

Skills

- **Languages**: C/C++, python*(advance)*, Java, R & Kotlin *(Intermediate)*
- **Softwares** : Android Studio, Arduino IDE, Visual Studio
- **Framewroks/libraries** : Tensorflow, NumPy, Pandas, matplotlib, scikit-learn
- **Web** : HTML, CSS, JavaScript, Django, flask
- **Communication protocols** : I2C, SPI, UART, Zigbee, Bluetooth, 802.11, Thread, LoRa
- **Programmable devices** : AVR, PIC and ARM – based microcontrollers, EPS32, RP2040, RP2350
- **Database** : MongoDB, MySQL
- **Instruction set architecture** : x86, AVR, RISC-V, MCS-51, 6502 *(Assembly languages)*
- **EDA** : KiCad (PCB schematic and board layout designing)
- **CAD** : FreeCAD

Personal Information

- Address - Ghaffar Manzil Colony, Jamia Nagar, Okhla, New Delhi, Delhi 110025
- Nationality - Indian
- Passport Number -   **Y6711248** (Valid up to 2033)