Mohammed Azmat Khan

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EDUCATION

- **Madhav Institute of Technology and Science** — Gwalior, MP
  Bachelor of Technology in Electronics and Communication; GPA: 8 4 — *2020- present*

- **Jawahar Navodaya Vidyalaya** — Mandla, India
  Central Board of Secondary Education; XII; 89.4% (447/500) — *2018*

- **Jawahar Navodaya Vidyalaya** — Mandla, India
  Central Board of Secondary Education; X; CGPA: 9.8/10 — *2016*

EXPERIENCE

- **Indian Institute of Technology Bombay** — Mumbai, India
  Research Intern (Full-Time) — *Jan 2024 - Present*
  - **u5india**: Data Analysis, Interpretation, Visualisation and software support for the journal u5india.
  - **SAFE Project**: SAFE app allows for Safe and Secure conduction of examinations, Marking quick and proxy-free attendance with Student's Smartphones, classroom mode that allows students to focus on the lectures and proximity quiz feature. Worked with typescript, Javascript, Nodejs, Django.

- **Google Summer of Code 2023 - GNU Octave** — Remote
  Student Developer (Full-Time) — *May 2023 - Sep 2023*
  - **Statistics package enhancement**: GNU Octave is an open-source scientific programming language for numerical computations and an open-source alternative to MATLAB.
    * Enhancement and addition of machine learning functionalities to the Statistics package of the GNU Octave.
    * Added kNN (k-Nearest Neighbor) and GAM (Generalized Additive Model) Regression to the statistics package of Octave which allow users to perform better statistical analyses with ease of interpretability.
    * Solved bugs and issues reported by the community, Added Documentation and Demo examples.

PROJECTS

- **JWTlib**: An open-source Type Safe Json Web Token (JWT) Encoder-decoder library to Encode and decode JWT with payload and encrypting algorithm. The library is written in Typescript, JavaScript and NodeJs. Hosted at npm currently has 600+ weekly downloads. (June '22)
- **Video Heart Rate Monitoring**: Non-Invasive, Non-Contact Heart rate detection from Video using Eulerian video magnification. It can detect the spikes in average heart rate by lying or distress, Useful in monitoring interrogations by police without any extra instruments and monitoring infants. (April '23).
- **AR virutal Heritage Visitor** : An Augmented Reality Android app for Virtually visiting Tourist Attractions across the country, with furnished full-scale 3-D models of national heritages with detailed architecture and labelled features to allow better exploration of the monuments and their history with support for local Indian languages. (May '21)
- **Automated Facial recognition attendance system**: Automatic Attendance recorder using facial recognition that eliminates the hassle of taking manual attendance, it records the time of entry, exit and total time present in the class during lectures which can be integrated with the college's Attendance recording system (Moodle). (march '22)

TECHNICAL SKILLS

- **Languages**: C, C++, Python, MATLAB/Octave, SQL, Embedded (Assembly), Arduino, Typescript, Javascript, NodeJS

- **Technologies and Frameworks**: STL, Boost, Qt, OpenCV, Image & Signal Processing, Agile methodology, Automated testing, CI/CD, ReadyAPI

- **Tools**: Git, Bash, Mercurial, NeoVim, Eagle, LTspice, Selenium

- **Hardware**: PCB design, Circuit Design, VLSI, Microcontrollers

- **Platforms**: Linux, Windows, x86, ARM, Arduino, Raspberry