

# TAVAHEED TARIQ

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 Tawheed-tariq

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 Srinagar, Kashmir

## EXPERIENCE

### Web Development Team Lead

#### Gaash Lab NIT Srinagar

 July 2024 – Current

 Srinagar, India – On-Site

- Leading a team of 15+ members in developing end-user web applications tailored for real-world use.
- Worked on multiple real-world projects, focusing on scalable, production-ready platforms with seamless backend and frontend integration.
- Actively involved in project planning, task delegation, code reviews, and mentoring junior developers to ensure high team productivity.

### Project Intern

#### Indian Institute of Technology (IIT) Delhi

 Dec 2024 – May 2025

 Delhi, India – Remote

- Developed and trained an Urdu OCR model using Parseq transformer architecture.
- Processed and labeled a large dataset of 28 million images for model training.
- Achieved State-of-the-Art (SOTA) in terms of Character Recognition Rate (CRR) and Word Recognition Rate (WRR) across all test sets.
- Enhanced character recognition by refining dataset quality and model parameters.

### Research Intern

#### Indian Institute of Technology (IIT) Ropar

 Dec 2024 – Feb 2025

 Punjab, India – On-Site

- Applied machine learning to predict initial charge capacity and charge capacity after 50 cycles of lithium-ion batteries.
- Worked with a dataset of 168 data points covering 20 dopant variations.
- Implemented multiple ML models with descriptors and identified XGBoost as the best-performing model.
- Analyzed feature importance to understand the impact of dopants on battery performance.

## EDUCATION

B.Tech in Information Technology

Nov 2022 – present

#### National Institute of Technology (NIT) Srinagar


 Grade: 9.04/10

 Srinagar, Kashmir

HSC (10+2)

Dec 2019 – Dec 2021

#### MPML Higher Secondary

 Grade: 9.82/10


 Srinagar, India

## EXTRA CURRICULARS

### Web Development Team Co-Lead, Techvaganza

- Led the Web development team for Techvaganza, the annual technical fest at NIT Srinagar

## PUBLICATIONS

- Context Aware Grounded Teacher for Source Free Object Detection, *Tajamul Ashraf, Rajes Manna, Partha Sarathi Purkayastha, Tavaheed Tariq, Janibul Bashir*, arXiv preprint arXiv:2504.15404, 2025 

## TECHNICAL SKILLS

- Core:** DSA, DAA, OOP, OS, DBMS
- C, C++, Python, Javascript, LaTeX
- HTML, CSS, JS, React, TailwindCSS
- Flask, FastAPI, NodeJS, ExpressJS, MongoDB, SQL
- Linux, Bash, Git, Docker, Postman, Figma
- Operating Systems:** Kali Linux, Ubuntu, Parrot Linux
- Other:** Machine Learning, Deep Learning, Web Scraping, Web Automation, Computer Vision
- Package Management:** Debian, PIP, NPM

## PROJECTS

### WP-Scanner

- Full-stack web application for penetration testing of WordPress sites, built with React, Flask, and MongoDB.
- Features automated vulnerability scanning, plugin/theme analysis, and detailed reporting for cybersecurity assessments.

### NIT Datesheet Generator

- Developed a scheduling tool for generating exam datesheets for all engineering courses at NIT Srinagar.
- Automated timetable creation, ensuring efficient and conflict-free scheduling.

### AffectSense

- An advanced emotion detection CNN architecture using ResNet50 as backbone for detecting emotions.
- Detects emotions accurately with an accuracy of 82% on benchmark datasets.

### IMDB Movie Review Sentiment Analysis

- Built an NLP model using TensorFlow and Keras to classify IMDB movie reviews as positive or negative.
- Utilized RNNs/LSTMs for sequence modeling, with word embeddings and tokenization for text preprocessing.

### Kernel Hacking

- Developed custom system calls to enhance kernel functionality, improving process management and file system operations.
- Worked with kernel internals, memory management, and debugging within a large-scale open-source codebase.

## ACHIEVEMENTS

- Achieved 1st place in "Bug Bounty" competition by efficiently identifying and solving bugs in provided programs.