

Ayesha Gull

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in ayeshagull

ayeshag7

ayesha-portfolio.io

WORK EXPERIENCE

📍 MIANWALI, PUNJAB, PAKISTAN OCT 2024 – PRESENT (PT)
Generative Intelligent Systems (GeniSys) Lab
Research Assistant

Conducting data collection and analysis, literature reviews, and implementing machine learning and deep learning algorithms to support ongoing projects with Dr. Khawar Khurshid.

📍 LAHORE, PUNJAB, PAKISTAN AUG 2024 – OCT 2024 (FT)
Centre for Water Informatics & Technology (WIT), LUMS
Research and Development Intern

As an R&D Intern at WIT, LUMS, I developed a mobile and web app for animal disease diagnosis and also worked on improving the machine learning model's accuracy and efficiency, an effort that continues.

📍 MIANWALI, PUNJAB, PAKISTAN NOV 2022 – JAN 2023 (PT)
Namal University
Teaching Assistant

Served as a teaching assistant for a course named “Quantitative and Computational Reasoning”, facilitating class discussions, helping grade assignments, and providing guidance to students.

RESEARCH

“USeqNet: Large-Scale Synthetic Data and Sequential Neural Architectures for Urdu Text Recognition”

Developed a large-scale synthetic Urdu text dataset (1.1M+ images) using systematic character combinations and AmarNastaliq font rendering. Implemented and evaluated three sequential architectures: CNN-LSTM (achieving 99.21% accuracy on UPTI dataset), CNN-Attention dual mechanism, and CNN-Transformer with RoBERTa-like encoder. The CNN-LSTM architecture, featuring four convolutional layers with batch normalization and multi-layer LSTM, demonstrated superior performance across printed and handwritten text recognition tasks.

Status: In progress.

AWARDS & COMPETITIONS

COMPETITIVE PROGRAMMING Won **CODEX**, an inter-university hackathon organized by Namal Computing Society, for three times consecutively.

HACKATHONS Participated in the **IBM Watsonx Assistant** hackathon by developing Culture Pulse, an HR chatbot for improving employee satisfaction. Reached the final round among 5009 participants, 243 teams and 60 AI applications.

EDUCATION

2021 – 2025 **Bachelor of Science**
CGPA: 3.75/4
Computer Science
Namal University

SKILLS

PROGRAMMING Python, JavaScript, TypeScript
C++, Kotlin, Java, SQL
HTML, CSS

DEVELOPMENT React, Next.js, Tailwind CSS
REST APIs, Redux, Jest
Node.js, Express.js

DATA SCIENCE & ML TensorFlow, PyTorch, OpenCV
Pandas, NumPy, Matplotlib
scikit-learn, MLflow

DEVOPS & CLOUD AWS, Docker, Prisma
MongoDB, PostgreSQL, Firebase

TOOLS Git, Linux, Figma, Selenium

OPEN SOURCE CONTRIBUTIONS

P5.JS WEB EDITOR **Description:** Implemented Urdu language support to enhance accessibility and inclusivity for Urdu-speaking users. Opened and resolved Issue #2633.
Tech Stack: react-i18next (Internationalization library for React)
Repository: processing/p5.js-web-editor
Contribution Type: pull request

TECHNICAL BLOG

HASHNODE Documenting my journey in tech by publishing insights about various technologies, tools, and programming languages that I've learned and used.
ayeshaiq.hasnode.dev

CERTIFICATIONS

18TH MAY, 2023 React JS Masterclass
Platform: Udemy
[View](#)

26ST AUG, 2022 Data Analysis with Python
Platform: Cognitive Class.ai
[View](#)

PROJECTS

AgriSense | AI-powered Precision Agriculture ecosystem

As part of our Final Year Project, I along with my teammate are developing an AI-powered precision agriculture ecosystem using autonomous drones and IoT sensors to promote sustainable farming practices. This project aims to address inefficiencies in agriculture by introducing tools for crop health monitoring, irrigation optimization, and yield estimation, providing actionable insights for farmers. We are integrating edge computing, cloud infrastructure, and object detection models (YOLOv10, Faster R-CNN) to enable real-time analysis and decision-making.

View on GitHub: [AgriSense](#)

The Pluriversity Lahore | Multilingual Educational Platform

In collaboration with the Centre for Critical Peace Studies from UMT, Lahore, I built the web platform for their flagship project “The Pluriversity Lahore”, which is a multilingual educational website providing an inclusive learning space for diverse knowledge systems. The platform offers indigenous research courses, critical reading circles, art resources, Gen Z research corners, and dialogues on epistemic justice and the future of education.

View on GitHub: [Pluriversity](#)

Chat2PDF | A PDF saver Chrome extension for ChatGPT

Developed a Chrome extension enabling users to convert ChatGPT conversations into PDF files with custom formatting for paragraphs, lists, tables, and code snippets, featuring a user-friendly interface built with plain HTML, CSS, and JavaScript, and integrated with the browser using Chrome APIs.

View on GitHub: [Chat2PDF](#)

Code Nest | A note sharing application

Developed a note sharing web application, specifically designed for programmers to create, share, edit, and manage notes, featuring a user-friendly interface.

View on GitHub: [CodeNest](#)

Course Cloud | An online learning marketplace

Built a responsive learning marketplace using React, featuring course management, checkout system, and user dashboard. Implemented state management via Context and Reducer APIs, integrated dark mode and Toastify for accessibility and notifications.

View on GitHub: [Course Cloud](#)

TESPH | A socio-economic analysis of countries

Conducted a socio-economic analysis to rank countries based on economic, social, and environmental well-being using the Gapminder dataset (1952–2012). Preprocessed and analyzed the data using pandas to derive insights and present trends.

View on GitHub: [TESPH](#)

VOLUNTEERING

Web & Ops Manager | Centre for Critical Peace Studies (CCPS)

Aug 2024 – Present (PT)

Led the design and development of their web platform “The Pluriversity Lahore”, an educational initiative aimed at democratizing access to online courses and learning resources. Continue to maintain and actively improve the platform by adding additional features.

Event Manager | Namal Environmental Society (NES)

Oct 2022 – Feb 2023

Organized and managed multiple educational and community events, including workshops, seminars, and cultural programs for environmental awareness. Oversaw logistics, coordinated with teams, and ensured smooth execution of events.

Volunteer Teacher | Namal Society for Social Impact (NSSI)

Nov 2021 – Jan 2022

Conducted weekly classes to teach underprivileged students, focusing on foundational concepts in mathematics and science. Designed interactive lessons and activities to engage students and enhance learning outcomes.