NADIA SAEED, PhD

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Rawalpindi-Punjab, 44000 Pakistan

SKILLS

Programming Languages: Python, R, Java, PHP

Machine Learning: Deep Learning, Ensemble Learning, SVM, Logistic Regression, Random Forests, LSTMs, CNNs

NLP: Embedding Models, Abstractive Summarization, Entity Recognition

Software Engineering: System Design, Databases, Prototyping

MLOps: ZenML, Deployment of ML Models to Production

Tools & Frameworks: Scikit-Learn, Keras, TensorFlow, SQL

Data Visualization: Polling Pie Charts, Customizable Surveys

Full-Stack Developer: MERN (MongoDB, Express, React, NodeJS)

EDUCATION

Ph.D. in Computer Science
National University of Computer & Emerging Sciences, Islamabad, Pakistan
Graduation Date: November 2023
GPA: 3.89/4.0

MS in Computer Science
National University of Computer & Emerging Sciences, Islamabad, Pakistan
Graduation Date: May 2017
GPA: 3.12/4.0

PROFESSIONAL SUMMARY

- Computer scientist and researcher specializing in **NLP, ML, and biomedical informatics**.
- Ph.D. in Computer Science with **6+ years of research experience**.
- Expertise in **EHR analysis, clinical research, and AI-driven healthcare**.
- **Published author** with success in **international research competitions**.
- Passionate about **AI, NLP, and interdisciplinary collaboration** in healthcare.

RESEARCH WORK

Research Project | Published Work

As First Author

- Medical Embedding Module address OOV problem: https://doi.org/10.3389/fmolb.2022.928530 (2022)
- EHR Abstractive Summarization addressing Entity Hallucination Problem: https://doi.org/10.1007/s10115-023-02055-6 (2023)

As Single Author

- Build an AI model for the Prediction and Correction of the wrong Diagnostic Disease based on Patient details: https://aclanthology.org/2024.clinicalnlp-1.32/ (2024)
- Used LLM for Hybrid Visual and Textual Dermatology dataset to generate Response for Treatment of a Disease in Three Languages (Chinese, English, and Spanish): https://aclanthology.org/2024.clinicalnlp-1.31/ (2024)
- NLP and Generative AI: A Roadmap for Enhanced CRISPR Design (UnderReview:2024)

Graduate Research Assistant | CBRL-NUCES

Islamabad - Aug 2019 - Dec, 2023

- Designed and implemented a novel stacking ensemble model using meta-learning of the ant colony optimization (ACO) system.
- Published two first-authored peer-reviewed research papers:
  - "Medical terminology-based computing system: a lightweight post-processing solution for out-of-vocabulary multi-word terms" (Frontiers in Molecular Biosciences, 2022)
  - "Transforming Abstractive Summarization of Scientific Articles with Linguistic Analysis and Concept Reinforcement" (Knowledge and Information Systems, 2023)
- Team Leader for the Clinical NLP Workshop 2024, leading an international coding competition focused on Error Detection and Correction in Pathogen Records, and contributing to a forthcoming research publication in the field.

Certified Multi-Vendor Website Developer | Project-Specific Certification (2024)

- Transformed a multi-vendor e-commerce platform with advanced, market-driven features using the MERN stack.
- Enhanced product displays with dynamic visuals and variant tracking for an intuitive shopping experience.
- Developed brand-specific pages and multi-level dashboards for seamless operations and business showcasing.
- Integrated real-time order tracking and streamlined filters, elevating the platform to industry standards.

PROFESSIONAL WORK

MERN-Stack Developer | PoshMall. Inc

Rawalpindi-Punjab - Jan 2024 - Current (Remote)

- Working on full stack project on Multi-Vendor Market Place Project Mobile Apps (In process).

Machine Learning NLP Engineer | AdMaxim. Inc

Lahore-Punjab - Oct 2017 - Current (Remote)

- Successfully researched, designed, developed, and deployed machine learning models for client projects,

utilizing advanced techniques like SVM, Logistic Regression, Random Forests, LSTMs, and CNNs.

- Proficient in scikit-learn, Keras, and TensorFlow on both CPU and GPU environments.
- Developed and deployed a production-ready demographic classification model predicting user demographics like gender, age, and income level based on internet log data.

Computer Science Visiting Faculty | Fatima Jinnah Women's University

Rawalpindi-Punjab- Oct 2023 - Feb 2024

- Delivers engaging lectures and hands-on labs in Microsoft Office suite (Word, Excel, and PowerPoint) for undergraduate students

ACCOMPLISHMENTS

- Conducted research funded by the Higher Education Commission of Pakistan and the Ministry of Planning Development and Reforms under the National Center in Big Data and Cloud Computing (NCBC).
- MSCS Teaching Assistant for Machine Learning (2017).
- Received a two-year research stipend from the CBRL lab for significant contributions to the project (2020-2022).
- Achieved #1 Rank on the EurekaAlert Dataset for abstractive summarization of scientific research articles: Link
- Acted as Research Paper's Reviewer of Clinical NLP Workshop 2024.
- MediFact-CoRR 2024 achieved the second-best score in the Clinical NLP Workshop 2024.
- MediFact-M3G 2024 achieved the thirteenth-best score out of 87 participants in the Clinical NLP Workshop 2024.
- MediFact-PerAnsSumm 2025 achieved the twelfth-best score out of 100 participants in the CL4Health workshop 2025 .

RESEARCH PROJECTS AND INITIATIVES

MCS Final Year Project (2011-2013)

- Developed a survey-based application using PHP, Java, and SQL.
- Enabled users to create surveys with various templates, customized questions/answers, and multiple-choice questions (MCQs).
- Implemented login functionality for users to view detailed responses in the form of polling pie charts for each question.

MSCS Project (2014-2017)

- Conducted an ensemble-based classification of 20 different UCI datasets with binary and multi-class classification.
- Published the project locally, utilizing Java language.
- Completed Face Recognition using MatLab language.

Ph.D. Research (2018-2023)

- Studied Advanced NLP, genomics bioinformatics, and data science.
- Published peer-reviewed papers addressing critical issues in NLP and healthcare.

Clinical NLP Workshop

- Participated in solo projects:
  - Built an AI model for the Prediction and Correction of wrong Diagnostic Diseases based on patient details: ACL, 2024.
  - Developed responses for disease treatment in three languages using LLM for a hybrid visual and textual dermatology dataset: ACL, 2024.

CURRENT PROJECTS

- Research on RAG-Llama indexing to address hallucination and falsification problems using guided, rule-based, and verification-based modules.
- Gene editing project exploring sources specifically profluent, with a focus on completing a review paper on CRISPR9.
- Integration of Custom Knowledge-Based Support system with ChatGPT to build ChatBot system.
- Multi-Vender Ecommerce Website.