Umair Ahmed

WORK EXPERIENCE

07/07/2015 – CURRENT Islamabad, Pakistan
ASSISTANT DIRECTOR (SOFTWARE DESIGN) NATIONAL DATABASE & REGISTRATION AUTHORITY

- Gather requirements and domain knowledge from National and International organizations to digitize them.
- Plan, Manage and Coordinate project objectives.
- Develop secure and intelligent enterprise applications and dashboards using (Java, Hibernate, Oracle, JSF, Struts 2, JAX-RS) while keeping check on translation of domain knowledge.
- Data Analysis to study trends to aid in public policy in projects such as National Health Insurance, Tax Profiling and Ehsaas Welfare Program.
- Interdepartmental and Inter-organizational communication regarding operations of projects such as Online Identity, Online Visa, Online Passport and Online Voting.

10/06/2014 – 25/06/2015 Karachi, Pakistan
SOFTWARE ENGINEER SYSTEMS LTD

- Develop software solutions by conferring with clients while studying information needs & system flows.
- Contribute in documentation of the system.
- Hands-on development using Java, .NET and PL-SQL.
- Maintenance of existing projects

10/12/2013 – 10/04/2014 Karachi, Pakistan
INTERN SYSTEMS LTD

- Design and develop user interfaces.
- Ensure compliance of specifications.
- Hands-on Java development.

EDUCATION AND TRAINING

01/02/2022 – CURRENT Camerino, Italy
PHD IN COMPUTER SCIENCE University of Camerino

1. Enhancing Open Data Ecosystem: Algorithm and Intelligence Perspective
   a. We focus on investigating how Artificial Intelligence (Algorithms) and Collective Intelligence (AI & CI) approaches can be shaped to foster access to open data, to obtain value from their usage, and to share the resulting products in the open data ecosystem.
   b. We investigate the efficiency of Large Language Models such as GPT, Llama, Mistral, T5, BERT in generating metadata for open datasets.
   c. We also explore the applicability of the aforementioned LLMs in mapping attributes of one ontology onto another to enhance linked data interoperability.

08/2016 – 05/2019 Islamabad, Pakistan
MASTER OF SCIENCE IN COMPUTER SCIENCE National University of Sciences and Technology

- CGPA: 3.2/4.0
- Thesis: Estimating Water Quality Using Internet Of Things and Machine Learning:
  - We proposed an inexpensive water quality detection system and implemented several supervised learning algorithms to predict water quality using minimal number of parameters i.e. 4 whose IoT sensors were comparatively economical.

- Supervisor: Rafia Mumtaz

BACHELOR OF SCIENCE IN COMPUTER SCIENCE National University of Computer & Emerging Sciences

- CGPA: 2.61/4.0
- Thesis: Moving Object Detection, Classification and Tracking:
    - We reviewed several methodologies for moving object detection, classification and tracking.

- Supervisor: Syed Tahir Qasim

PUBLICATIONS

Publications

- **Ahmed, U.**, Alexopoulos, C., Piangerelli, M., & Polini, A. (2024). BRYT: Automated keyword extraction for open datasets. *Intelligent Systems with Applications*, *23*, 200421.
- **Ahmed, U. (2023).** Reimagining open data ecosystems: a practical approach using AI, CI, and knowledge graphs. In *BIR Workshops* (pp. 235-249).
- Maratsi, M. I., **Ahmed, U.**, Alexopoulos, C., Charalabidis, Y., & Polini, A. (2024, June). Towards Cross-Domain Linking of Data: A Semantic Mapping of Cultural Heritage Ontologies. In *Proceedings of the 25th Annual International Conference on Digital Government Research* (pp. 165-176).
- Alharbi, R., **Ahmed, U.**, Dobriy, D., Łajewska, W., Menotti, L., Saeedizade, M. J., & Dumontier, M. (2023). Exploring the role of generative AI in constructing knowledge graphs for drug indications with medical context. *Proceedings http://ceur-ws. org ISSN*, *1613*, 0073.
- Herrera-Murillo, D. J., Ochoa-Ortiz, H., **Ahmed, U.**, López-Pellicer, F. J., Re, B., Polini, A., & Nogueras-Iso, J. (2024). Process Analysis in Humanitarian Voluntary Geographic Information: the case of the HOT Tasking Manager. *AGILE: GIScience Series*, *5*, 5.
- **Ahmed, U.**, Mumtaz, R., Anwar, H., Mumtaz, S., & Qamar, A. M. (2020). Water quality monitoring: from conventional to emerging technologies. *Water Supply*, *20*(1), 28-45.
- **Ahmed, U.**, Mumtaz, R., Anwar, H., Shah, A. A., Irfan, R., & García-Nieto, J. (2019). Efficient Water Quality Prediction Using Supervised Machine Learning. *Water*, *11*(11), 2210.

RECOMMENDATIONS

1. Name: Rafia Mumtaz
Position: Head of IT (Research Advisor)
Organisation: National University of Sciences & Technology
Email: rafia.mumtaz@seecs.edu.pk

2. Name: Syed Hassan Raza Naqvi
Position: Head of Development
Organisation: National Database & Registration Authority
Email: hassan.raza@nadra.gov.pk

COURSES

Courses

- The BAI/ZHAW Winter School on Generative AI
- Finetuning Large Language Models
- Generative AI for Everyone
- Generative AI with Large Language Models
- Machine Learning and its applications
- ISWS Summer School on Knowledge Graphs
- OpenGov 2022, OpenGov 2023, OpenGov 2024 (Summer Schools)
- Recommendation Systems on Google Cloud
- Foundations: Data, Data, Everywhere
- Introduction to Public Speaking:
    - MOOC from the University of Washington and offered through Coursera
- A Hands-on Workshop on Data Science in Practice:
    - A 5-day hands-on workshop on applied data science using Python and Scikit-learn conducted by Predictive Analytics Lab
- Technical Training on "Introduction to Java Framework":
    - Employee training conducted by Systems Ltd focused on Java and Hibernate
- The BAI/ZHAW Winter School on Generative AI

Camerino , 12/11/2024

Umair Ahmed