Khalid Hasan

Dhaka, Bangladesh

✉ 72.khalidhasan@gmail.com   🌐 shawontafsir.github.io
 github.com/shawontafsir   in khalidshawon

EDUCATIONAL QUALIFICATION

Missouri State University   **MO, USA**
M.Sc. in Computer Science   *August, 2023 - Present*
– Running CGPA: 4.00/4.00

Bangladesh University of Engineering & Technology   **Dhaka, Bangladesh**
B.Sc. in Computer Science and Engineering   *July, 2014 - October, 2018*
– CGPA: 3.28/4.00

RESEARCH INTERESTS

Data Mining, Data Science, Machine Learning, Software Engineering, Programming Languages, Information Security

PUBLICATIONS

o **Khalid Hasan**, Jamil Saquer, **'A Comparative Analysis of Transformer and LSTM Models for Detecting Suicidal Ideation on Reddit'**, to appear in the 23rd IEEE International Conference on Machine Learning and Applications (ICMLA) proceedings.
o **K. Hasan**, P. Chakraborty, R. Shahriyar, A. Iqbal, G. Uddin, **'A Survey-Based Qualitative Study to Characterize Expectations of Software Developers from Five Stakeholders'**. In Proceedings of the 15th ACM / IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM) (ESEM '21). Association for Computing Machinery, New York, NY, USA, Article 4, 1–11. PDF. DOI: `https://doi.org/10.1145/3475716.3475787`
o P. Chakraborty, **K. Hasan**, A. Iqbal, G. Uddin, R. Shahriyar, "A comparative study of software development practices in Bangladesh, an emerging country," in the International Journal of Software Engineering, Technology, and Applications, Vol. 2, Iss. 2, p. 149-187, 2024.

Theses

Mining Developer Questions about Major NoSQL Databases

Sep, 2017 - Oct, 2018

- Undergraduate Thesis Work

o The primary aim of this research on major NoSQL databases is to bridge the gap of the NoSQL camp and help better understand the challenges, requirements, and specific applications of the NoSQL databases. We extracted the relevant questions and investigated different challenges and issues faced by the developers of NoSQL databases and the various domains the NoSQL databases are used by mining questions asked on Stack Overflow. **Paper details - Here**.

EXPERIENCES

Graduate Assistant   **MO, USA**
Dept. of CS, Missouri State University   *August, 2023 - Present*

- Assisting NSF S-STEM scholars with academic performance evaluations and supporting tracking and improving outcomes
- Conducting Research on data mining and machine learning, focusing on applying advanced deep learning techniques to address mental health-related challenges through data-driven insights
- Technologies: Python, Scikit-learn, PyTorch, Pandas, Numpy, NLTK, SQL, and more

Software Engineer   **Dhaka, Bangladesh**
Stibo DX   *August, 2022 - July, 2023*

- Pioneered the development of libraries/extensions for the proprietary content management system, *CUE*
- Elevated Rest API performance by minimizing latency in GraphQL queries, particularly in managing asynchronous promises for content listing API
- Demonstrated proficiency in adhering to Agile project management standards through the entire project lifecycle, from designing specifications to seamless communication with diverse teams, leveraging Jira
- Technologies: JavaScript, TypeScript, Python, Bash, Docker, GraphQL, and more

Software Engineer, Back End   **Dhaka, Bangladesh**
Intelligent Machines Ltd.   *April, 2020 - July, 2022*

- Orchestrated the conception and execution of back-end functionalities for a trade merchandising automation process and an audio annotation platform, collaborating closely with the DevOps and Business Intelligence teams
- Utilized SQL to design and optimize database queries particularly for PostgreSQL, ensuring efficient data retrieval and storage
- Monitored and fine-tuned service instances, including container registry and K8 clusters on Azure to facilitate scalable software delivery.
- Technologies: Django, PostgreSQL, BigQuery, Docker, Kubernetes, GitHub CI, and more

Software Engineer, Full Stack   **Dhaka, Bangladesh**
InfoSapex Limited   *Nov, 2018 - March, 2020*

- Conducted a comprehensive analysis and compilation of requirements for a cloud-based hotel management system
- Engineered and implemented the features, deploying the solution on AWS infrastructure (including EC2, S3, and Api-gateway). Utilized Django and PostgreSQL for back-end services, and employed JavaScript and JQuery for front-end services, with version control, managed through Git
- Technologies: Django, PostgreSQL, Javascript, Git, etc.

KEY SKILLS

Programming Language	Python, C++, Java, JavaScript, TypeScript, Scala
Framework	Django Rest
DBMS	Oracle, MySQL, PostgreSQL
Tools	Scikit-learn, PyTorch, Pandas, Numpy, NLTK
Others	Git, SQL, Spark, LaTeX, Bash, JavaFX, Docker, Kubernetes

PROJECTS

Intensity Measurement of LFA Stips
- Designed and executed a U-Net architecture, applying advanced deep-learning methodologies to segment images of Lateral Flow Assays (LFAs) effectively
- Extracted the region of interest and generated precise intensity graphs for the test lines on the strip
- Used PyTorch, OpenCV

Basic Content Publishing Platform
- Create and update contents with rich text and dynamic text fields which are open for anonymous users with request throttling.
- Used JavaScript, Django Rest, etc.

Restaurant Search System
- This system allows users to search for restaurants by location, food, etc., and give orders, feedback, and rating.
- Framework: Django, Database: SQLite

Restaurant Management System
- This software helps to manage daily activities of a restaurant.
- It helps managers to check available products, employees to get notification about ordered items, users to give orders.
- Front End: JSP-Servlet, Back End: JAVA, Database: Oracle

Image to text converter
- Implemented an image to text converter that can be used in two ways which are full image converter and the selected portion of image converter.
- Platform: JavaFX, Tool: Tesseract OCR

REFERENCES

Dr. Jamil Saquer
Professor, Department of CS, Missouri State University

Dr. Rifat Shahriyar
Professor, Department of CSE, Bangladesh University of Engineering & Technology