Redwan Walid

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Education

University of Maryland, Baltimore County — Maryland, US
Doctor of Philosophy in Information Systems — *Jan. 2019 – Present*

North South University — Dhaka, Bangladesh
Master of Business Administration — *May 2017 – Dec. 2018*

North South University — Dhaka, Bangladesh
Bachelor of Science in Electrical and Electronic Engineering — *Jan. 2010 – Dec. 2014*

Experience

Research Assistant, KnACC Lab — Jan. 2020 – Present
University of Maryland, Baltimore County — *Maryland, US*

- We are working with the various issues and challenges faced in the EHR system stored on the cloud.
- We built an open-source application using the Python Django framework. Our application uses user attributes to control permission and access levels of the fields of an EHR. We used ABE for encrypting the EHR.
- We built an ontology following the HIPAA act to control access to different fields of an EHR. Our framework allows search over encrypted data that was built using the searchable encryption techniques.

Teaching Assistant, Introduction to Database Design — Jan. 2019 – Dec. 2019
University of Maryland, Baltimore County — *Maryland, US*

- Conducted discussion sessions to teach database basics like ER diagram, drawing ER diagram, SQL commands, and all types of SQL operations. Graded exam, assignment, and project.

Network Engineer — Mar. 2018 – Nov. 2018
IDLC Finance Limited — *Dhaka, Bangladesh*

- Administered Active Directory, Exchange, DNS, Website, and proxy service.
- Managed system security, fixed failures, scheduled, and executed backups, and prepared system restoration/disaster recovery plans.

Assistant Network Engineer — Nov. 2015 – Feb. 2018
IDLC Finance Limited — *Dhaka, Bangladesh*

- Prepared and maintained all Data Center related documentation, requirement analysis, equipment configuration, and up-gradation planning.
- Monitored inter-branch connectivity across the IDLC group.

Junior Engineer — Feb. 2015 – Aug. 2015
X-net Limited — *Dhaka, Bangladesh*

- Wrote proposals for establishing a new cell site highlighting operational benefits. Drew network diagram/layout for the proposed cell site.
- Monitored the existing infrastructure for ensuring smooth network connectivity.

Projects

Delegated Access Control using Attribute-Based Encryption — Spring 2020 – Present

- We plan to solve some real-world issues and challenges faced in the EHR system stored on the cloud.
- We Built an application using the Python Django framework. Our application uses user attributes to control EHR access. We used ABE for encrypting EHR.
- We built an ontology following the HIPAA act to control access to different fields of an EHR. Our framework allows search over encrypted data that was built using the searchable encryption techniques.

Spam Detection using machine learning approaches — Spring 2020

- We built predictive model that can be used to identify spam email.
- We also tried to infer the relationship between the predictors and the response.

Churn prediction for customers in the banking system — Spring 2020

- We built machine learning and deep learning models to predict customers which are likely to churn.
- We also identified the features that are important for the prediction.

Predicting movie genre from plot summaries using Support Vector Machine Fall 2019

- We built classification model to predict movie genre from plot summaries.
- We used data pre-processing techniques to pre-process the open source data.

Is Your Better Half Prone to Divorce? Predicting Divorce Using Data Science Fall 2019

- We built machine models to predict divorce using an open-source dataset.
- We did feature selection and data pre-processing techniques. The accuracy of the model was compared before and after feature selection.

Integrating information from multiple repositories Fall 2019

- We built a layer of integration above the local databases. The integration layer is the layer of metadata that includes information that defines the local databases.
- We used dynamic SQL to merge different databases. We also used metadata layer to map same entities with different name.

Efficient and Flexible Aggregation and Distribution of MODIS Atmospheric Products Summer 2019

- We tried to build a model to process the data for a day or month within the shortest possible time.
- We tried different parallel processing techniques and re-sampling methods in python to reduce computational time.

Assessing water budget sensitivity to precipitation using VIC hydrologic model Spring 2019

- We used VIC to test the effect of precipitation uncertainties on water budget components for the Potomac river basin from April 2017 to September 2017, that was deployed on taki, UMBC HPCF.
- We analyzed the monthly water balance components' sensitivity by increasing variability in input precipitation using parametric resampling methods.

Technical Skills

Languages: Python, C, PL/SQL, R, Unix, HTML/CSS,
Developer Tools: PyCharm, Git, VS Code