

Raed Alharbi

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Research Interests

IOT security, media and mobile security, network security, privacy and online surveillance in web.

Education

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| University of Florida, Gainesville, FL
PhD of Computer Science GPA 3.55 of 4. | August 2019 - present |
| Florida Institute of Technology, Melbourne, FL
Master of Science in Computer Information System GPA 3.87 of 4. | December 2018 |
| Florida Institute of Technology, Melbourne, FL
Information Assurance and Cybersecurity Certificate. | December 2018 |
| Taibah University, Almadinah
Bachelor of Computer Information System GPA 4.43 of 5 | August 2009 – May 2014 |

Skills

Java, Python, NLP in Machine learning, Testing, Debugging, SQL Oracle, PL/SQL Oracle, MySQL Microsoft, System Analyst.

Experience

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| Aldawa Company, Almadinah
<i>System Analyst</i> <ul style="list-style-type: none">System analyst for program called Meraith Alnoba | May 2014 - Aug 2014 |
| Environment Management Risk system, Hungary <ul style="list-style-type: none">Developed system test result to evaluate homes near gas station using C# | February 2014 - March 2014 |
| Taibah University, Almadinah <ul style="list-style-type: none">Designed Oracle database and developed website for Ohed company using MySQL, PL/SQL and ASP.NET. | Aug 2013 –May 2014 |

Projects

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| University of Florida, Gainesville, FL | August– May 2019 |
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Giving three different datasets, gaussian clouds, swiss roll and halfmoon, to predict different groups based on specific dataset.

Challenges:

- Exploratory data analysis for different dataset and take overview how the data are correlated.
- The data is huge, and thus curse of dimensionality has to be handled.
- Deciding the criteria's that we have to define to reduce these high dimensions

Proposal solutions:

- Implement MDS, ISOMAO and LLE from scratch to obtain deep understanding how to reduce dimensionality
- Compare these methods to decide which one to choose and which one doing better and in term of what.
- Evaluate both models

University of Florida, Gainesville, FL

August– May 2019

Use and optimize machine learning models that effectively *predict* the crab species based on 8 given features including Frontal Lip, Rear Width, Length, Width, Depth, Male and Female

Challenges:

- Exploratory data analysis for the dataset.
- Using more than one model and then compare them.
- Model Representation and Prediction

Proposal solutions:

- Implement the probabilistic generative classifier from scratch.
- Implement k-NN classifier from scratch.
- Evaluate both models

University of Florida, Gainesville, FL

August– May 2019

Use and optimize machine learning models that effectively *predict* the number of ride-sharing bikes that will be used in any given 1hour time-period using bicycle-sharing system dataset.

Challenges:

- Exploratory data analysis for the dataset.
- Using more than one model and then compare them.
- Model Representation and Prediction

Proposal solutions:

- Deep Analysis for the data using machine learning libraries in python such as Seaborn, Sklearn.
- Implement MLE and MAP from scratch to understand the match behind it.

Software to keep track of all buildings under construction in new city.

Challenges:

- Construction works on one building at a time.
- Using two different data structure.
- The performance must be in $\log(n)$

Proposal solutions:

- Implement Red-Black Tree (RBT) and Min heap algorithms using java.

Florida Institute of Technology, Melbourne, FL

October 2017 - 2019

Graduate Research in analysis of digital data in IoT

Challenges:

- Lack of standard investigation frameworks to help investigators.
- Improper evidence handling.
- Diversity of devices.

Proposal solutions:

- Proposal framework called Radlen to organize and control security for IoT devices to assist inspectors.
- Simulation program using java for Radlen system.

Author books Application

Challenges:

- Difficulties in finding all the books that specific author published.

Proposal solutions:

- Designed MySQL database to make it easy to query all books that specific author wrote.
- Simple recognition application coded in java.

Florida Institute of Technology, Melbourne, FL

August 2018

Hajj hackathon

Issues:

- Lack of communication with pilgrims due to languages diversity.
- Losing money or identifications due to huge people traffic.
- Knowing pilgrims' health records in the case of exposure to a health crisis.

Proposal solutions:

- Pilgrim identification system using radio frequency identification. Each pilgrim should wear a wristband with a unique tag identification number to be the official identification of a pilgrim that linked to java program to control all activities including campaign location, health background and electronic wallet.
- Overview of how this system can be practically implemented in the holy site.

Honors

- Second honor degree from Taibah University
- first honor degree from Florida Institute of Technology.
- International certificate from Oracle company - oracle database SQL certified expert.
- International certificate from Oracle company – oracle PL/SQL developer certified associate.
- Certificate Course in self-employment.
- Certificate from Taibah university in attend the first Taibah University International Conference on computing and information technology.
- Course from Cisco company for 6 months - Cisco Networking Academy include four explorations.
- Certificate for participating in Hajj hackathon.
- Attending cyber security conference at data center at Los Angeles.

Teaching and Mentoring Experience

Teaching Assistant, Introduction to Information Security

Spring 2015

Department of computer science, Saudi Electronic University

- Prepared lectures and class activities.

- Created and graded course assessment to ensure students understood material and stayed on track.
- Teaching lab materials.

Instructor, java programming

Spring 2015

Department of computer science, Saudi Electronic University

- Explained challenging concepts using planned lessons, assignments and targeted discussion for students.

Awards

- full scholarship for my graduate studies (master and PhD) from Saudi Electronic University.

Publications

- Paper titled "Collection and Analysis of Digital Forensic Data from Devices in the Internet of Things" in IEEE SoutheastCon 2019 at the Von Bruan Center in Huntsville, Alabama.

References

Willam Allen, Associate professor of Computer Science
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(321)674-8856, wallen@fit.edu

Shengzhi Zhang, Associate professor of Computer Science
Florida Institute of Technology
(321)674-7055, zhangs@cs.fit.edu

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