

## TAGHREED ALGHAMDI

## ASSISTANT PROFESSOR



Eastern Province, Dammam, 22231, Saudi Arabia



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## WEBSITES &amp; SOCIAL LINKS

Home Page:  
<https://taghreedalghamdi.com/>

## LANGUAGES

ENGLISH

ARABIC

Experienced Computer Science Ph.D. with a focus on IoT for smart city services. Proven expertise in leadership, research, and impactful contributions to real-world projects. Skilled in data analysis, AI, machine learning, and software development. Adept at leveraging technology for practical solutions. Effective communicator with strong leadership skills.

## WORK EXPERIENCE

## AL BAHA UNIVERSITY

Jan 2024 - Present

## Assistant Professor

- Delivered engaging lectures and provided extensive mentorship to students.
- Contributed significantly to the development of course curriculum.
- Successfully conducted groundbreaking research in the field of IoT.
- Undertook active roles on academic committees, ensuring smooth functioning of the department.
- Persistently stayed abreast with latest industry trends, applying them to teaching methodologies and research.
- Mastered the art of public speaking and presentation skills
- Proficient in leveraging technology for remote teaching

## ONTARIO TECH UNIVERSITY

Jan 2019 - Jan 2023

## IoT Lab Researcher

- Participated as a key team member in the Smart City Projects in the IoT Lab.
- Played a crucial part in the preparation of the IoT - online course providing a deep understating of the Industrial IoT.
- Leveraged a scalable cloud platform to implement an efficient data management strategy, significantly improving data handling and analysis
- Developed "RegTraffic," a spatiotemporal traffic simulator using regression techniques.
- Key contributor to design, implementation, and simulation enhancements.
- Integral team member in developing HD Maps for Connected and Automated Vehicles, providing essential insights for successful implementation.

## ONTARIO TECH UNIVERSITY

Jan 2021 - Jan 2023

### Teaching Assistant

- Organized class materials for optimized learning experience
- Led classroom activities, fostering a dynamic learning environment
- Provided 1-on-1 tutoring, improving student understanding
- Assisted teachers, enhancing class efficiency by 30%
- Contributed to overall 20% increase in class grades
- Served as a crucial resource for struggling students
- Developed curriculum to engage students and increase comprehension
- Tailored teaching methods to suit individual learning styles

## CENTER FOR VISUAL AND DECISION INFORMATICS

Jan 2017 - Jan 2019

### Researcher

- Experience in both qualitative & quantitative research methodologies
- Exceptional attention to detail & analytical thinking
- Spearheaded multiple research projects to fruitful completion
- Demonstrated skills in data collection, analysis & synthesis
- Adept at time management, delivering results within deadlines
- Proficient in modern technological research tools & software
- Strong communication skills to present research findings
- Experience in writing and submitting professional research proposals
- Exemplary ability to adapt to new research areas & techniques
- Contributed in publishing 10+ research papers

## THE UNIVERSITY OF LOUISIANA AT LAFAYETTE

Jan 2017 - Jan 2018

### Research Assistant

- Expert at complex data analysis and interpretation
- Proven problem-solving ability in research challenges
- Maintained detailed and accurate research records
- Supervised teams to ensure study protocol adherence
- Effective communicator of research findings to teams
- Demonstrated ethical handling of research subjects

## AL BAHA UNIVERSITY

Jan 2015 - Jan 2016

### Lecturer

- Increased student engagement and satisfaction rates
- Developed and implemented unique teaching strategies
- Adept at modifying curriculum to meet diverse student needs
- Regularly received accolades and positive feedback from students
- Excelled in fostering student creativity and critical thinking
- Planned and executed successful extracurricular academic events

## AL BAHA UNIVERSITY

Aug 2011 - Apr 2012

### Teaching Assistant

- Managed classroom operations for enhanced learning
- Offered 1:1 academic support to struggling students
- Facilitated student understanding and improved grades
- Helped accommodate special needs students in class

## EDUCATION

**ONTARIO TECH UNIVERSITY**  
Oshawa, ON, Canada  
2023

### Doctor of Philosophy

- Earned Ph.D. in Computer Science from Ontario Tech University, Oshawa, ON, Canada.
- Thesis focused on 'Leveraging IoT to Provide Reliable Smart City Services'.
- Completed relevant coursework in Data Analytics Real Time, Survey of Computer Science Research Topics.
- Attained a high GPA of 4.20 out of 4.30.

**UNIVERSITY OF LOUISIANA AT LAFAYETTE**  
Lafayette, LA, USA  
2018

### Doctor of Philosophy (Incomplete)

- Successfully finished two years of coursework within the Computer Science Ph.D. Program at the University of Louisiana at Lafayette, specializing in Mobile Computing & Applications, VLSI Architecture, & Networks, maintaining a flawless 4/4 GPA.
- Transitioned from the University of Louisiana at Lafayette to leverage the expertise of Ontario Tech's distinguished faculty and access specialized resources, aligning my research focus with these valuable opportunities.

**SOUTHERN METHODIST UNIVERSITY**  
Dallas, TX, USA  
2015

### Master of Science

- Achieved a Master's degree in Computer Science from the top-ranked Southern Methodist University, demonstrating academic excellence with a GPA of 3.6/4.
- Distinguished performance in specialized and advanced courses including Algorithm Engineering, Computer System Security, and Advanced Data Mining.
- Acquired proficiency in diverse programming languages and advanced application programming.
- Proficient in Designing User Interfaces and Decision Support Systems, showcasing versatility in tech abilities.

**INTENSIVE ENGLISH PROGRAM (IEP) - SMU**  
Dallas, TX, USA  
2013

### Academic Certificate in English Program

- Pursued intensive English studies at Southern Methodist University's Intensive English Program (IEP).
- Engaged in comprehensive language instruction focusing on English grammar, vocabulary, and communication skills.
- Experienced cultural immersion to grasp English language nuances, idioms, and expressions.
- Attained dedicated academic support to strengthen both written and spoken English proficiency.
- Successfully completed the IEP, equipping with essential linguistic skills and cultural insights to excel in academic, professional, and personal realms.

**AL BAHA UNIVERSITY**  
Al Bahah, Saudi Arabia  
2011

### Bachelor of Science

- Bachelor of Science in Computer Science from Al-Baha University, Saudi Arabia.
- Completed key courses such as Fundamentals of Computer Programming, Data Structures & Software Design, and Algorithm Design & Analysis.
- Gained proficiency in Programming in Java, Programming Languages, and Application Programming.
- Developed understanding in Database Management, Computer System Security, and Digital Design.
- Achieved a 3.6/4 GPA.

**AL-BAHA  
COMMUNITY  
COLLEGE**

Al Baha, Saudi Arabia  
2007

**Diploma in Computer Science**

- Diploma in Computer Science, Al-Baha Community College, Saudi Arabia with a GPA 3.9/4.
- Integral coursework: Programming Fundamentals, Computer Organization, Introduction to Computer Systems, Discrete Structures, Algorithms, and Networking.
- Specialized in Computer Security, Digital Design Logic, and Introduction to Data Structure.

**SKILLS**

Leadership



Teamwork



Machine Learning



Critical Thinking



Time Management



Quality Assurance



Research



Communications



Data Analysis



Teaching



Data Management Plan



Data Integrity



Data Visualization



AI



**OTHER EXPERIENCE**

Al-Baha University; Al-Baha,  
Saudi Arabia.  
Dec 2023

**Featured Speaker at Al-Baha City Forum for Artificial Intelligence**

Contributed to dialogue sessions at the Al-Baha Forum for Artificial Intelligence, organized by SDAIA in partnership with Al-Baha University. Discussed AI's impact on education and smart city developments in the Kingdom. Appreciative of Al-Baha University for hosting this valuable event.

The Lafayette Engagement  
and Research Network  
(LEaRN)  
Jun 2019

**CGI Technologies and Solutions:**

Smart City Air Challenge Project Team Member: Played a pivotal role in a team that worked on the Smart City Air Challenge project, earning recognition from the U.S. Environmental Protection Agency (EPA) as one of only two nationwide awardees.  
Notable Achievement: Implemented a robust data management plan utilizing a scalable cloud platform, ensuring efficient data handling and analysis.

SAS Institute Inc., Dallas,  
TX, USA  
May 2015

**SAS Analytics Shootout Competition:**

Earned an honorable mention as part of a competitive team, demonstrating analytical prowess in the annual SAS Analytics Shootout competition.

Southern Methodist  
University; Dallas, TX USA  
May 2015

**Saudi Students Association at SMU:**

Vice President for Women's Affairs: Held the position of Vice President for Women's Affairs within the Saudi Student Association (SSA) at SMU, actively contributing to the organization's growth and success.

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## PROFESSIONAL DEVELOPMENT AND CERTIFICATIONS:

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Al-Baha, Saudi Arabia  
Apr 2016

**Supervising Activities and Conferences at the Faculty of Computer Science and Information Systems:**

Successfully supervised and managed various activities during the Seventh Scientific Conference, showcasing leadership and organizational skills.

Lafayette, LA, USA  
May 2018

**A Comprehensive Data Integrity/Trust Approach to IoT Infrastructures in Smart City:**

Gained expertise in ensuring data integrity and trustworthiness within Internet of Things (IoT) infrastructures, a critical aspect of modern technology.

Lafayette, LA, USA  
May 2018

**Develop API in Smart City Air Challenge Project:**

Developed essential Application Programming Interfaces (APIs) to support data management and integration in the Smart City Air Challenge project.

Oshawa, ON, Canada  
May 2023

**Event-based Traffic Flow Analysis and Prediction on Interactive Map Visualization:**

Engaged in research and practical application of event-based traffic flow analysis and prediction, emphasizing the use of interactive map visualization techniques.

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## PUBLICATIONS

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July 2019

Forecasting Traffic Congestion Using ARIMA Modeling: 15th International Wireless Communications and Mobile Computing Conference (IWCMC)

Aug 2020

Spatiotemporal Prediction Using Hierarchical Bayesian Modeling: 2020 International Conference on Communications, Signal Processing, and their Applications (ICCSPA)

Nov 2021

A Bayesian Linear Regression Approach to Predict Traffic Congestion

Sep 2021

Improving Spatiotemporal Traffic Prediction in Adversary Weather Conditions Using Hierarchical Bayesian State Space Modeling

Aug 2021

Spatiotemporal Traffic Prediction Using Hierarchical Bayesian Modeling: 2021 MDPI Future Internet Journal.

Nov 2022

RegTraffic: A Regression Based Traffic Simulator for Spatiotemporal Traffic Modeling, Simulation and Visualization

Nov 2022

Revisiting the internet of things: New trends, opportunities and grand challenges

Mar 2023

HD Maps for Connected and Automated Vehicles: Enabling Technologies and Future Directions