

# MOTASEM ALFARRA

Last updated: February 2023

King Abdullah University of Science and Technology, Thuwal, Saudi Arabia  
(+966) 54985 8834 ◊ (+965) 9902 9031 ◊ motasem.alfarra@kaust.edu.sa

## EDUCATION

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<b>PhD, King Abdullah University of Science and Technology</b> Department of Electrical and Computer Engineering Advisor: Bernard Ghanem	<i>May 2020 - Present</i>
<b>MSc, King Abdullah University of Science and Technology</b> Department of Electrical Engineering Advisor: Bernard Ghanem Thesis: Applications of Tropical Geometry in Deep Neural Networks	<i>January 2019 - May 2020</i> Overall GPA: 4.0/4.0
<b>BSc, Kuwait University</b> Department of Electrical Engineering	<i>September 2014 - May 2018</i> Overall GPA: 4.0/4.0

## TEACHING/RESEARCH EXPERIENCE

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- **Research Internship** August 2022 - December 2022  
Intel Labs - Munich, Germany
- **Research Internship** October 2021 - February 2022  
University of Oxford - Oxford, United Kingdom
- **Teacher Assistance** January 2020 - May 2020  
Introduction to Computer Vision (Ph.D. course) - KAUST, Saudi Arabia
- **Guest Lecturer** (1 Lecture) July 2020  
Title: Adversarial Attacks and Network Robustness - Universidad Panamericana, Mexico

## SELECTED PUBLICATIONS

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(\* indicates equal contribution)

- Motasem Alfarra, Zhipeng Cai, Adel Bibi, Bernard Ghanem, Matthias Müller. “SimCS: Simulation for Online Domain-Incremental Continual Segmentation”, [arxiv](#) 2023
- Yasir Ghunaim, Adel Bibi, Kumail Alhamoud, Motasem Alfarra, Philip H. S. Torr, Bernard Ghanem. “Real-Time Evaluation in Online Continual Learning: A New Paradigm”, [CVPR](#) 2023
- Andrés Villa, Juan C Alcazar, Motasem Alfarra, Kumail Alhamoud, Julio Hurtado, Fabian Caba, Alvaro Soto, Bernard Ghanem. “PIVOT: Prompting for Video Continual Learning”, [CVPR](#) 2023
- Kumail Alhamoud, Hasan Abed Al Kader Hammoud Motasem Alfarra, Bernard Ghanem. “Generalizability of Adversarial Robustness Under Distribution Shifts”. [AAAIW](#) 2023
- Motasem Alfarra\*, Francisco Eiras\*, M. Pawan Kumar, Philip H. S. Torr, Puneet K. Dokania, Bernard Ghanem, Adel Bibi\*. “ANCER: Anisotropic Certification via Sample-wise Volume Maximization”, [TMLR](#). 2022
- Motasem Alfarra\*, Adel Bibi\*, Hasan Hammoud, Mohamed Gaafar and Bernard Ghanem. “On the Decision Boundaries of Neural Networks: A Tropical Geometry Perspective”, [TPAMI](#) 2022
- Motasem Alfarra, Juan C. Pérez, Anna Frühstück, Philip H. S. Torr, Peter Wonka, Bernard Ghanem. “On the Robustness of Quality Measures for GANs”, [ECCV](#) 2022

- Motasem Alfarra, Juan C. Pérez, Egor Shulgin, Peter Richtárik, Bernard Ghanem. “Certified Robustness in Federated Learning”. [Workshop on Federated Learning, NeurIPS](#) 2022
- Motasem Alfarra<sup>\*</sup>, Adel Bibi<sup>\*</sup>, Philip H. S. Torr, Bernard Ghanem. “Data Dependent Randomized Smoothing”. [UAI](#) 2022
- Motasem Alfarra<sup>\*</sup>, Gabriel Pérez S.<sup>\*</sup>, Juan C. Pérez<sup>\*</sup>, Silvio Giancola, Bernard Ghanem. “3DeformRS: Certifying Spatial Deformations on Point Clouds”. [CVPR](#) 2022
- Juan C. Pérez, Motasem Alfarra, Ali Thabet, Pablo Arbeláez, Bernard Ghanem. “Towards Assessing and Characterizing the Semantic Robustness of Face Recognition” [arXiv](#) 2022
- Motasem Alfarra<sup>\*</sup>, Adel Bibi<sup>\*</sup>, Naeemullah Khan, Philip H. S. Torr, Bernard Ghanem. “DeformRS: Certifying Input Deformations with Randomized Smoothing”, [AAAI \[oral\]](#). 2022
- Motasem Alfarra, Juan C. Pérez, Ali Thabet, Adel Bibi, Philip H. S. Torr, Bernard Ghanem. “Combating Adversaries with Anti-Adversaries”, [AAAI](#). 2022
- Juan C Pérez, Motasem Alfarra, Guillaume Jeanneret, Laura Rueda, Ali Thabet, Bernard Ghanem, Pablo Arbeláez. “Enhancing Adversarial Robustness via Test-time Transformation Ensembling”, [AROW-ICCVW](#) 2021
- Motasem Alfarra<sup>\*</sup>, Juan C. Pérez<sup>\*</sup>, Adel Bibi, Ali Thabet, Pablo Arbeláez, Bernard Ghanem. “Rethinking Clustering for Robustness”, [BMVC](#) 2021
- Motasem Alfarra<sup>\*</sup>, Juan C. Pérez<sup>\*</sup>, Guillaume Jeanneret<sup>\*</sup>, Adel Bibi, Ali Thabet, Bernard Ghanem, Pablo Arbeláez. “Gabor Layers Enhance Network Robustness”, [ECCV](#). 2020
- Motasem Alfarra, Slavomír Hanzely, Alyazeed Albasyoni, Bernard Ghanem, Peter Richtárik “Adaptive Learning of the Optimal Batch Size of SGD” [OPT-NeurIPS](#) 2020

## AWARDS AND HONORS

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- **KAUST Academic Excellency Award** July 2022  
Received the Academic Excellency Award of the academic year 2021/2022.  
Thuwal, Saudi Arabia
- **Best Extended Abstract Award in LatinX Workshop at CVPR’22** June 2022  
For the work “Combating Adversaries with Anti-Adversaries”.  
New Orleans, USA
- **KAUST Fellowship** January 2019  
A generous fellowship provided to continue my MSc/PhD studies at KAUST.  
Thuwal, Saudi Arabia.
- **National Debating Competition** November 2017  
Won the national debating competition and was awarded as one of the top 10 debaters.  
Kuwait, Kuwait.
- **Dean’s Award Honor List (6 consecutive semesters)** November, 2015 - March 2018  
Kuwait, Kuwait.
- **High School Examinations (6<sup>th</sup>/~23,000)** June 2014  
Kuwait, Kuwait.

## SKILLS

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- **Programming Skills and Software Packages**  
Python, Pytorch, C++, MATLAB, Git, Anaconda, Latex, Arduino, AutoCAD.

- **Reviewer**

CVPR'22, CVPR'21, ICML'21, ICCV'21, NeurIPS'21, NeurIPS'22, ICLR'22, TPAMI.