

MOTASEM ALFARRA

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EDUCATION

PhD, King Abdullah University of Science and Technology Department of Electrical and Computer Engineering Advisor: Bernard Ghanem	<i>May 2020 - Present</i>
MSc, King Abdullah University of Science and Technology 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
BSc, Kuwait University Department of Electrical Engineering	<i>September 2014 - May 2018</i> Overall GPA: 4.0/4.0

TEACHING/RESEARCH EXPERIENCE

- **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

(* indicates equal contribution)

- [Motasem Alfarra](#), Zhipeng Cai, Adel Bibi, Bernard Ghanem, Matthias Müller. “SimCS: Simulation for Online Domain-Incremental Continual Segmentation”, [arxiv](#) 2022
- Andrés Villa, Juan C Alcazar, [Motasem Alfarra](#), Kumail Alhamoud, Julio Hurtado, Fabian Caba, Alvaro Soto, Bernard Ghanem. “PIVOT: Prompting for Video Continual Learning”, [arxiv](#) 2022
- [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
- Kumail Alhamoud, Hasan Abed Al Kader Hammoud [Motasem Alfarra](#), Bernard Ghanem. “Generalizability of Adversarial Robustness Under Distribution Shifts”. [AAAIW](#) 2022

- Motasem Alfarra*, Adel Bibi*, Philip H. S. Torr, Bernard Ghanem. “Data Dependent Randomized Smoothing”. **UAI** 2022
- Motasem Alfarra*, Gabriel Pérez S.*, Juan C. Pérez*, 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*, Adel Bibi*, 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*, Juan C. Pérez*, Adel Bibi, Ali Thabet, Pablo Arbeláez, Bernard Ghanem. “Rethinking Clustering for Robustness”, **BMVC** 2021
- Motasem Alfarra*, Juan C. Pérez*, Guillaume Jeanneret*, 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

- **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 (6th/~23,000)** June 2014
Kuwait, Kuwait.

SKILLS

- **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.