# Syed Talal Wasim

wasimtalal@gmail.com mwasimsyedtalal TalalWasim

## **EDUCATION**

## University of Bonn

Jan 2024 - Ongoing

Bonn, Germany

Ph.D. in Computer Vision

• Working on Multi-Modal Video Recognition and Anticipation

• Supervised by Professor Dr. Jürgen Gall

#### Universidad Autónoma de Madrid

 $\mathbf{Sep}\ \mathbf{2019} - \mathbf{Jun}\ \mathbf{2021}$ 

MS Image Processing and Computer Vision - CGPA - 8.78/10

Madrid, Spain

Jul 2021

• Funded by the Erasmus Mundus Joint Masters Degree (EMJMD) Scholarship Program

• MS Thesis: Automatic Typography Analysis on Figurative Content

• Supervised by Dr. Mathieu Salzmann (CVLAB) at EPFL

ETH Zurich

Robotics Summer School and Symposium

Zurich, Switzerland

• Highly selective program that admits 40 participants (M.S. or Ph.D. students)

• Attended a week-long intensive theoretical and practical education classes in autonomous robotics

Habib University

Sep 2015 - Jun 2019

BS Electrical Engineering - Minor in Computer Science - CGPA - 3.86/4.00

Karachi, Pakistan

• BS Thesis: SquadBot: A Multi-Agent Robotics Teaching and Research Platform

• Graduated with 1<sup>st</sup> position in program

Stanford University

Jun 2017 - Aug 2017

Summer International Honors Program - CGPA - 3.87/4.00

Stanford, USA

• Coursework: Technology Entrepreneurship, Leading Trends in IT, Smart Cities & Communities

## WORK EXPERIENCE

## Computer Vision Lab, Mohamed Bin Zayed University of AI

Apr 2022 - Dec 2023

Research Assistant

Abu Dhabi, UAE

- Supervisor: Dr. Salman Khan
- Focused on multimodal supervised and self-supervised video representation learning, and out-of-distribution generalization

## Empathic Computing Laboratory, University of Auckland

Jul 2020 - Mar 2021

Research Intern

Remote

- Supervisor: Dr. Mark Billinghurst
- Focused on Multimodal Emotion Recognition using Facial Micro-Expressions
- In addition to Facial Micro-Expressions, the impact of other modalities like EEG and GSR was also investigated

## Habib University

Jan 2018 - Jun 2018

Undergraduate Research Assistant

Karachi, Pakistan

- Supervisor: Dr. Muhammad Farhan
- Detection of Mitosis in Breast Cancer Histopathology Images with Deep Learning

#### **PUBLICATIONS**

- 1. A. Shaker, S. T. Wasim, M. Danelljan, S. Khan, M.-H. Yang, and F. Khan, "Efficient video object segmentation via modulated cross-attention memory," in WACV, 2025
- 2. S. T. Wasim, M. Naseer, S. Khan, M.-H. Yang, and F. Khan, "VideoGrounding-DINO: Towards open-vocabulary spatio-temporal video grounding," in *CVPR*, 2024
- 3. M. Z. Yousuf, S. T. Wasim, S. N. Hasany, and M. Farhan, "AR-VPT: Simple auto-regressive prompts for adapting frozen vits to videos," in VISAPP, 2024
- 4. **S. T. Wasim**, K. H. Soboka, A. Mahmoud, S. Khan, D. Brooks, and G.-Y. Wei, "Hardware resilience properties of text-guided image classifiers," in *NeurIPS*, 2023
- 5. S. T. Wasim\*, M. U. Khattak\*, M. Naseer, S. Khan, M. Shah, and F. Khan, "Video-FocalNets: Spatio-temporal focal modulation for video action recognition," in *ICCV*, 2023
- 6. M. U. Khattak\*, S. T. Wasim\*, M. Naseer, S. Khan, M.-H. Yang, and F. S. Khan, "Learning self-regulating prompts for vision-language models," in *ICCV*, 2023
- 7. S. T. Wasim, M. Naseer, S. Khan, F. Khan, and M. Shah, "Vita-CLIP: Video and text adaptive clip via multimodal prompting," in CVPR, 2023
- 8. S. T. Wasim, R. Collaud, L. Défayes, N. Henchoz, M. Salzmann, and D. Ribes, "Toward automatic typography analysis: serif classification and font similarities," *Journal of Data Mining in Digital Humanities* (*JDMDH*), 2023
- 9. N. Saffaryazdi, **S. T. Wasim**, K. Dileep, A. F. Nia, S. Nanayakkara, E. Broadbent, and M. Billinghurst, "Using facial micro-expressions in combination with eeg and physiological signals for emotion recognition," *Frontiers in Psychology*, 2022
- 10. S. T. Wasim, S. N. Hasany, K. Abbasi, H. Feroz, A. A. Ahmed, M. H. Shaikh, and M. Farhan, "Sim-to-real transfer for object detection and localization on animals," in CV4Animals CVPR Workshop, 2021
- 11. Arxiv preprints under review:
  - (a) A. Shaker, S. T. Wasim, S. Khan, J. Gall, and F. Khan, "Groupmamba: Parameter-efficient and accurate group visual state space model," arxiv preprint, arxiv:2407.13772, 2024

## ACADEMIC SERVICES

- Journal Reviewers
  - IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- Conference Reviewers
  - Computer Vision and Pattern Recognition (CVPR)
  - European Conference on Computer Vision (ECCV)
  - Asian Conference on Computer Vision (ACCV)
  - Neural Information Processing Systems (NeurIPS)
  - International Conference on Learning Representations (ICLR)
  - Association for the Advancement of Artificial Intelligence (AAAI)

#### • Project Supervision

- Co-supervise undergraduate projects in computer vision at Habib University
- Co-supervise high-school students in Pakistan for the International Science and Engineering Fair (ISEF)

#### HONORS AND AWARDS

#### Ph.D.

- Compute Award for Large-Scale Open-Vocabulary Video Understanding and Anticipation: Co-authored EuroHPC Benchmark and Regular access grants with Professor Dr. Juergen Gall totalling nearly 3 million GPU compute hours.
- Compute Award for Large-Scale Robust Vision Language Models: Co-authored EuroHPC Benchmark access grant with Professor Dr. Ernesto Damiani totalling 0.2 million GPU compute hours.

#### Masters

• Erasmus Mundus Scholarship: Two year fully funded scholarship for MS studies

#### **Bachelors**

- Dean's Medal: For graduating with the highest CGPA in Electrical Engineering program
- Best Capstone Award: Awarded the best capstone project award in the Electrical Engineering program
- Summer Program Scholarship: Among 8 students selected for funded International Honors Program at Stanford University
- President's Honor List: For maintaining position on Dean's Honor List in consecutive semesters
- Dean's Honor List: The top 10% students in the program each semester
- High Academic Achievement Scholarship: Additional 10% Scholarship for the Top 3 students in the school each semester
- Merit Scholarship: Awarded 65% scholarship for 4 years

#### **High School**

• Intel ISEF: Fully funded opportunity to represent Pakistan at the Intel International Science and Engineering Fair (ISEF), 2014 in LA, California

#### **SKILLS**

**Programming:** Python (Advanced), C/C++ (basic), C# (basic), Java (Basic)

Common ML Tools: Pandas, Numpy, Scikit-Learn, Tensorflow/Keras, OpenCV, Pytorch

AR/VR and Game Engines: Unity 3D, HoloLens 1 Languages: English: C2 (Expert), Urdu: Native