# Syed Talal Wasim

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scholar.google.com/citations?user=uHySarAAAAAJ talalwasim.github.io

## EDUCATION

**University of Bonn** **Jan 2024 – Ongoing**
*Ph.D. in Computer Vision* *Bonn, Germany*
- Working on Multi-Modal Video Recognition and Anticipation
- Supervised by Professor Dr. Jürgen Gall

**Universidad Autónoma de Madrid** **Sep 2019 – Jun 2021**
*MS Image Processing and Computer Vision -* ***CGPA - 8.78/10*** *Madrid, Spain*
- 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** **Jul 2021**
*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 1st 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. **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
2. 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
3. **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
4. **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
5. 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
6. **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
7. **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
8. 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
9. **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
10. **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
    (b) A. Shaker, **S. T. Wasim**, M. Danelljan, S. Khan, M.-H. Yang, and F. Khan, "Efficient video object segmentation via modulated cross-attention memory," *arxiv preprint, arxiv:2403.17937*, 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 Langugae 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++ (Intermediate), C# (Intermediate), 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