# Syed Talal Wasim

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## **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

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

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 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

# Intelligent Visual Analytics Lab, Mohamed Bin Zayed University of AI

Apr 2022 - Dec 2023

Research Assistant

• Supervisor: Dr. Salman Khan

• Focused on multimodal supervised and self-supervised video representation learning, and out-of-distribution generalization

# Empathic Computing Laboratory, University of South Australia

Jul 2020 - Mar 2021

Research Intern

Remote

Abu Dhabi, UAE

- 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

Karachi, Pakistan

Undergraduate Research Assistant

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

#### **PUBLICATIONS**

- 1. J. Yi\*, S. T. Wasim\*, Y. Luo\*, M. Naseer, and J. Gall, "Video-Panda: Parameter-efficient alignment for encoder-free video-language models," in *Under Review*, 2024
- 2. D. Velayudhan, A. Ahmed, M. Alansari, N. Gour, A. Behouch, T. Hassan, S. T. Wasim, N. Maalej, M. Naseer, J. Gall, M. Bennamoun, E. Damiani, and N. Werghi, "STING-BEE: Towards vision-language model for real-world x-ray baggage security inspection," in *Under Review*, 2024
- 3. H. Suleman\*, S. T. Wasim\*, M. Naseer, and J. Gall, "Distillation-free scaling of large ssms for images and videos," arxiv preprint, arxiv:2409.11867, 2024
- 4. 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
- 5. 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
- 6. **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
- 7. 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
- 8. 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
- 9. 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
- 10. 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
- 11. **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
- 12. **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
- 13. 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
- 14. 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

#### ACADEMIC SERVICES

- Journal Reviewers
  - IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- Conference Reviewers
  - Computer Vision (CVPR, ICCV, ECCV, WACV, ACCV)
  - Artificial Intelligence and Machine Learning (NeurIPS, ICLR, ICML, 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 totaling 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 totaling 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