Syed Talal Wasim

wasimtalal@gmail.com wasimsyedtalal TalalWasim talalwasim.github.io

EDUCATION

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 – Present**
Research Assistant *Abu Dhabi, UAE*

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

Computer Vision Lab, École Polytechnique Fédérale de Lausanne **Feb 2021 – Jul 2021**
Master Thesis *Lausanne, Switzerland*

- Supervisor: Dr. Mathieu Salzmann
- Focused on Automated Typography Analysis on Figurative Content
- Designed a Transformer based Hierarchical AutoEncoder for Typography Representation Learning
- Used Transformer based Fine-Grained Recognition to separate fine features like Serifs
- Derived a Parameterized Polynomial based mathematical model to represent SVG font characters

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. U. Khattak*, M. Naseer, S. Khan, M. Shah, and F. Khan, "Video-focalnets: Spatio-temporal focal modulation for video action recognition," in *Under Review*, 2023
2. M. U. Khattak*, **S. T. Wasim***, M. Naseer, S. Khan, M. Shah, and F. Khan, "Learning self-regulating prompts for vision-language models," in *Under Review*, 2023
3. **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
4. **S. T. Wasim**, R. Collaud, L. Défayes, N. Henchoz, M. Salzmann, and D. Ribes, "Analyzing poster collections using automatic serif classification and font similarities," in *Journal of Data Mining in Digital Humanities (JDMDH)*, 2023
5. 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
6. **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

RESEARCH PROJECTS

Textual Context Improves Hardware Resilience in Closed-Set Classifiers **Nov 2022 - Ongoing**

- Studying how using a rich textual context can improve resilience to bit errors
- In collaboration with Harvard University

Efficient CNN Models for Computer Vision on FPGAs **Jan 2020 – Dec 2020**

- Year-long Tutored Research Project during the MS program
- Deployment of common image classification models like ResNet50 and VGG19 in low-bit to binary quantized format on FPGA
- Comprehensive work on implementing Skip-Connections in both Streaming Architectures and Matrix/Vector Processors

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), Spanish: A1.1 (Elementary), Urdu: Native

HONORS AND AWARDS

Graduate

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

Undergraduate

- **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