

TAIMOOR TARIQ | Curriculum Vitae

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SUMMARY

I am a third-year PhD Student aiming to make real-time Virtual Reality (VR) realistic through a deeper understanding of human vision.

EDUCATION

UNIVERSITÀ DELLA SVIZZERA ITALIANA (USI)

PhD in Informatics

Concentration: Computer Graphics and Human Visual Perception

2020 - current

Lugano, Switzerland

KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY (KAIST)

MS in Electrical Engineering

Concentration: Visual Computing and Machine Learning

CGPA: 4.0/4.3

KAIST Graduate Fellowship Awardee

2017 - 2019

Daejeon, South Korea

NATIONAL UNIVERSITY OF SCIENCES AND TECHNOLOGY (NUST)

BS in Electrical Engineering

Concentration: Digital Systems and Signal Processing

CGPA: 3.83/4.0

Merit Scholarship Awardee (Top 3% of class)

2013 - 2017

Islamabad, Pakistan

EXPERIENCE

RESEARCH SCIENTIST INTERN

Facebook

Mentors: [Alex Chapiro*](#), [Ajit Ninan](#), [Nathan Matsuda](#), [Douglas Lanman](#)

Working with the Perceptual Graphics sub-group at the Applied Perception Science team at Facebook Reality Labs. Working on perceptually inspired computational display algorithms for real-time VR systems

10/2022 - current

Sunnyvale, California, USA

DOCTORAL RESEARCH ASSISTANT

Perception, Display and Fabrication Group - USI

Mentor: [Piotr Didyk](#)

Working on understanding human visual perception in immersive environments to improve real-time rendering for VR-headsets

2020 - current

Lugano, Switzerland

GRADUATE RESEARCH ASSISTANT

Video and Image Computing Lab - KAIST

Mentor: [Munchurl Kim](#)

Worked on integrating human perception models with the Deep Learning pipeline for Perception-Oriented Image Super-Resolution

2017 - 2019

Daejeon, South Korea

UNDERGRADUATE RESEARCH ASSISTANT

Neuro-informatics Research Group - NUST SEECS

Mentor: [Awais Kamboh](#)

Designed a real-time signal processing algorithm for unsupervised neural spike detection and sorting. The algorithm was designed for future implantable neural chips

2016 - 2017

Islamabad, Pakistan

RESEARCH INTERESTS

Visual Computing, Computational Displays, Audio/Visual Perception, Real-Time Rendering, Augmented/Virtual Realities

TEACHING

Teaching Assistant: Computer Graphics (Fall 2020, Fall 2021), USI-Lugano

Teaching Assistant: Computer Vision & Pattern Recognition (Spring 2021, Spring 2022)

Teaching Assistant: Image & Video Processing (Spring 2023), USI-Lugano

PUBLICATIONS

Noise-based Enhancement for Foveated Rendering

ACM Transactions on Graphics (SIGGRAPH 2022)

Taimoor Tariq, Cara Tarhan Tursun and Piotr Didyk

Why are Deep Representations Good Perceptual Quality Features?

European Conference on Computer Vision (ECCV 2020)

Taimoor Tariq, Okan Tarhan Tursun, Munchurl Kim and Piotr Didyk

A HVS inspired Attention to Improve Loss Metrics for CNN-based Perception-Oriented Super-Resolution

International Conference on Computer Vision Workshops (ICCVW 2019)

Taimoor Tariq, Juan Luis Gonzalez Bello and Munchurl Kim

Computationally Efficient Fully-Automatic Online Neural Spike Detection and Sorting in presence of Multi-Unit activity for Implantable Circuits

Computer Methods and Programs in Biomedicine, 2019

Taimoor Tariq, Muhammad Hashim Satti, Hamid Mehmood Kamboh, Maryam Saeed and Awais Mehmood Kamboh

Low SNR Neural Spike Detection using Scaled Energy Operators for Implantable Brain Circuits

IEEE Engineering in Medicine and Biology Conference (EMBC 2017)

Taimoor Tariq, Muhammad Hashim Satti, Maryam Saeed and Awais Mehmood Kamboh