# Taimoor Tariq

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## ABOUT ME

I am a first-year PhD student at USI Lugano. Currently, I am interested in understanding human visual perception and using perception to improve imaging and graphics algorithms. I enjoy squash, cricket, swimming and tennis.

## EDUCATION

**National University of Sciences and Technology (NUST), Pakistan**

*B.Sc. Electrical Engineering* **2017**
*(Concentration: Digital Systems and Signal Processing)*
- CGPA: **3.83**/4.0 (Top 3% of class)

**Korea Advanced Institute of Science and Technology (KAIST), South Korea**

*M.Sc. Electrical Engineering* **Aug-2019**
*(Concentration: Machine Learning and Visual Computing)*
- CGPA: **4.0**/4.3

**Università della Svizzera italiana, Switzerland**

*PhD. Informatics* **Current**
*(Concentration: Perception and Visual Computing)*

## WORK/RESEARCH EXPERIENCE

**Center for Advanced Research in Engineering (CARE) Pvt Ltd, Islamabad, Pakistan** **Intern Digital Design Engineer (2015)**
- Designed a "**Digital Automatic Gain Control Architecture for a Military Grade Software Defined Radio."**

**NUST- SEECS Neuroinformatics Research Lab** **Undergraduate Researcher (2016-2017)**
- **Unsupervised Neural Spike Detection and Sorting for Implantable Integrated Brain Circuits.**
- **Group PI: Dr. Awais M. Kamboh**

**KAIST- Video and Image Computing Lab** **Graduate Researcher (2017-2019)**
- **Applied Perception and Deep Learning for Perception-Oriented Super-Resolution.**
- **Group PI: Dr. Munchurl Kim**

**USI- Perception, Display and Fabrication Group** **PhD Student (2020-)**
- **Group PI: Dr. Piotr Didyk**

## RESEARCH INTERESTS.

Machine Learning, Human Visual Perception, Low-Level Vision, Computational Imaging, Photo-realistic graphics/imaging, Virtual Reality, Bio-Inspired/Explainable AI.

## PUBLICATIONS

- Taimoor Tariq, M.H Satti, M. Saeed and A.M. Kamboh, "Low SNR Neural Spike Detection using Scaled Energy Operators for Implantable Brain Circuits". *39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society* (EMBC'17)
- Taimoor Tariq, M.H. Satti, M. Saeed, H.M. Kamboh and A.M. Kamboh, "Computationally Efficient, Fully Automatic Neural Spike Detection and Sorting for Implantable Brain Circuits", *Computer Methods and Programs in Biomedicine, 2019* ***(IF: 3.424)***.
- Taimoor Tariq, J. Gonzalez and M. Kim. "A HVS-inspired Attention to Improve Loss Metrics for CNN-based Perception-Oriented Super-Resolution.", *ICCV Workshops 2019*
- Taimoor Tariq, O.T Tursan, M. Kim, P. Didyk. "Why Are Deep Representations Good Perceptual Quality Features?", *ECCV 2020*