Saqib Javed

Contact Information

E-mail: saqib.javed@epfl.ch, *Mobile:* +41778135321 saqibjaved1.github.io

Education

EPFL, Switzerland
Doctoral Research, Computer Vision Lab (EPFL Global Leader) Oct, 2021 - Present
- **Topic :** Energy-Efficient and Resource-Constrained Deep Networks
  Supervisors : Prof. Dr. Pascal Fua Dr. Mathieu Salzmann

ETH - Zürich, Switzerland
M.Sc. Electrical Engineering (Research abroad) Sep, 2020 - Mar, 2021
- **Topic :** Hardware-Friendly Mixed-Precision Neural Networks
  Supervisors : Prof. Dr. Luca Benini Prof. Dr.-Ing. Walter Stechele

Technical University of Munich, Germany
M.Sc. Communications Engineering (Distinction - Ranked 3rd in class) Oct, 2017 - Mar, 2021
- **Thesis :** Hardware-Friendly Mixed-Precision Neural Networks

Current Projects

"Leveraging quantization noise to improve diffusion model performance" in progresss
"Targeted Quantization for Diffusion Models" in progresss
"Surface/Mesh Reconstruction with Gaussian Splatting" in progresss

Publications

"Self-Ensembling Gaussian Splatting for Few-Shot Novel View Synthesis. *ICCV, 2025*" (Oral)
"Quantization-Aware Training for Domain Generalization. *ICML,2025*"
"Temporally Compressed 3D Gaussian Splatting for Dynamic Scenes. *BMVC, 2025*"
"FastPose-ViT: A Vision Transformer for Real-Time Spacecraft Pose Estimation. *WACV, 2026*"
"Modular Quantization-Aware Training for 6D Object Pose Estimation. *TMLR,2024*"
"Towards SWARM: A Smart Water Monitoring System. *ICPS,2020*"

Professional Experience

Meta | **Sensor Fusion & Multimodal Imaging Systems**, United States Present
Research Scientist Intern | *Sensors and Systems Computational Photography*
- Designing efficient image geometry correction methods to enhance the accuracy and robustness of 3D perception.

Logitech | **3D Video Conferencing**, Switzerland February - August, 2025
Research Internship | *Efficient 3D reconstruction for real-time 3D video conferencing*
- Real-time, photo-realistic 3D reconstruction of head and upper body from monocular RGB and grayscale input for bandwidth-efficient telepresence and video conferencing applications.

Agile Robots AG | **Applied Machine Learning**, Germany
Working Student | *Software Development* May - August, 2021
- Deployment of object detection models on Jetson Xavier AGX with tensorRT optimization.

Max Planck Institute | **Extraterrestrial Physics**, Germany
Research Intern | *Deep learning on FPGA* April - August,2020
- Enhancing framerate of camera by using chess mode of high speed image sensors and feeding the readed data stream into deep neural network for performing pixel interpolation on FPGA.
  Supervisors: Dr.-Ing. Markus Plattner Dr.-Ing. Sabine Ott

BMW Group | **Autonomous Driving Campus**, Germany
Research Intern | *HW/SW Optimization of CNNs* July - December, 2019
- Implemented an innovative method to optimize CNNs and reduce power and memory footprint of machine learning models.
  Supervisors: Prof. Dr.-Ing. Walter Stechele Dr. Nael Fasfous

GE-Healthcare, Germany
Intern | *Software Test Engineering - Automation* March - June, 2019
- Software development and testing of GE-Healthcare's product "Seno Iris" which is used for examining images from Mammography.

Siemens AG | **CT RDA IOT SES-DE**, Germany
Research Intern | *Deep learning and Model Deployment* October - December, 2018
- Implementation of algorithms in the area of machine learning, image processing and distributed systems to automate laser welding process, configurable by Web APIs.
- Supported the implementation of demonstrator for collaborative embedded systems.

Intel | **Application debugger.**, Germany
Working Student | *Software Development* March - August, 2018
- Development and testing of tools for software developers to support application debugger functions on next-generation company hardware platforms using C and C++.

International Experience

Ferienakademie | **Autonomous Drones for Sustainability**, Italy
Summer School September - October, 2019
- Did research under the supervision of Prof. Dr. Bernd Brügge to introduce a smart water monitoring system which is centered around unmanned aerial vehicles (UAVs).

Teaching

EPFL | **Teaching Assistant**, Lausanne
Introduction to Machine Learning (4 Semesters)
Probability and Statistics (1 Semester) — Responsible Software (1 Semester)

TUM | **Chair of Electronic Design Automation**, Germany
Tutorship | *VHDL System Design Laboratory* November 2019 - July, 2020
- Guided students for two semesters to understand and solve lab tasks in implementing AES encryption algorithm on FPGA.

Supervisors: Dr.-Ing. M.Eng. Li Zhang

Languages

English, German(B1), Urdu, Hindi, Punjabi, French (A1)

Technical Skills

- **Deep Learning:** Quantization, Pruning, Knowledge Distillation, Mixed Precision, Generative Models (Diffusion, LLMs/VLMs, Multimodal models), NerFs, Domain Generalization, Domain Adaptation.
- **Computer Vision:** 3D Reconstruction, 6D Pose Estimation, Computational Photography, Multimodal Perception, Gaussian Splatting, Mesh Reconstruction, Novel view synthesis.

Honors & Awards

- *Recipient*, EPFL Global Leaders doctoral fellowship, 2021-2026.
- *Recipient*, Best Teaching Assistance Award, 2024.
- *Recipient*, International research stays scholarship for computer scientists (DAAD- IFI), 2020.
- *Top 50 candidates*, 9^{th} National Chemistry Talent Contest(NCTC), Pakistan , 2012.
- *Recipient*, NUST Academic Merit Scholarship, 2013 - 2017.
- *Winner*, National Table Tennis Tournament, Fast-Islamabad, Pakistan, 2016 - 2017

Academic Activities (Selected)

Reviewing 2022 – 2026
- Reviewer, CVPR 2026, 2025, 2024, 2023
- Reviewer, ICLR 2026, 2025
- Reviewer, ICML 2025
- Reviewer, NeurIPS 2024
- Reviewer, ECCV 2024
- Reviewer, ICCV 2025, 2023
- Reviewer, ACCV 2024
- Reviewer, TPAMI

Research Talks
- Invited Talk at Lauzhack
- Invited Talk at Magic Leap
- Invited Talk at Logitech