Saqib Javed

Contact Information

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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

"Efficient 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 | Sensors and Systems Computational Photography, United States Present
Research Internship | Efficient deep learning for Computational Photography
- Improving image sensor technology to enhance the quality and realism of visual content, improving depth perception and visual understanding in 3D environments.

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 / TUM | 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)

Academic Projects (Selected)

Reducing Carbon Emissions based on Policy Decisions post COVID-19 Apr - Sep, 2020

- Developed a tool for policy makers, scientists and other researchers to analyze different policies and their impact on the CO2 emissions.

Supervisors: Prof. Dr.-Ing. Klaus Diepold

Obstacle Detection and Avoidance for Visually Impaired September, 2016 - June, 2017

- Developed a complete prototype made for Visually impaired people to freely navigate in an indoor environment using sensor fusion technique.

Supervisors: Dr. Khawar Khurshid

Semantic Segmentation via Reduced FCNNs October, 2018 - January, 2019

- Casting classification networks (VGG16 & LeNet) into fully convolutional segmentation networks and retraining with 88.01% px-wise cross-val. accuracy & 0.81 IoU (pytorch & MSRC dataset).
- 75% model reduction (500 MB $\rightarrow$ 85 MB) via iterative filter pruning (based on l_1 norm) and retraining with 83.61% px-wise accuracy & 0.74 IoU.

Supervisors: Dr. Yiyu Shi

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