

Saqib Javed

CONTACT INFORMATION	<i>E-mail:</i> saqib.javed@epfl.ch , saqibjaved1.github.io
EDUCATION	<p>EPFL, Switzerland <i>Doctoral Research, Computer Vision Lab</i> (EPFL Global Leader) Oct, 2021 - Present</p> <ul style="list-style-type: none">• Topic : Energy-Efficient and Resource-Constrained Deep Networks• Supervisors : Prof. Dr. Pascal Fua Dr. Mathieu Salzmann <p>ETH - Zürich, Switzerland <i>M.Sc. Electrical Engineering</i> (Research abroad) Sep, 2020 - Mar, 2021</p> <ul style="list-style-type: none">• Topic : Hardware-Friendly Mixed-Precision Neural Networks• Supervisors : Prof. Dr. Luca Benini Prof. Dr.-Ing. Walter Stechele <p>Technical University of Munich, Germany <i>M.Sc. Communications Engineering</i> (Distinction - Ranked 3rd in class) Oct, 2017 - Mar, 2021</p> <ul style="list-style-type: none">• Thesis : Hardware-Friendly Mixed-Precision Neural Networks
CURRENT PROJECTS	<p>“Efficient Targeted Quantization for Diffusion Models” in progress</p> <p>“Real-time Rendering using Gaussian Splatting” in progress</p>
PUBLICATIONS	<p>“Temporally Compressed 3D Gaussian Splatting for Dynamic Scenes.” S. Javed, A. Jarrar, C. Dumery, C. Zhao, M. Salzmann.</p> <p>“Self-Ensembling Gaussian Splatting for Few-Shot Novel View Synthesis.” C. Zhao, S. Javed, Xuan Wang, Tong Zhang, M. Salzmann.</p> <p>“Quantization-Aware Training for Domain Generalization. <i>ICML,2025</i>” S. Javed, H. Le, M. Salzmann.</p> <p>“Modular Quantization-Aware Training for 6D Object Pose Estimation. <i>TMLR,2024</i>” S. Javed, C. Li, A. Price, Y. Hu, M. Salzmann.</p> <p>“Towards SWARM: A Smart Water Monitoring System. <i>ICPS,2020</i>” J. Kunze, V. Mayer, L. Thiergart, S. Javed, P. Scheppe, T. Tran, M. Haug, M. Avezum, B. Bruegge, Eugene C. Ezin.</p>
PROFESSIONAL EXPERIENCE	<p>Logitech 3D Video Conferencing, Switzerland <i>Research Internship Efficient 3D reconstruction using Gaussian Splatting</i> Present</p> <ul style="list-style-type: none">• Bandwidth optimization for 3D video conferencing. <p>Agile Robots AG Applied Machine Learning, Germany <i>Working Student Software Development</i> May - August, 2021</p> <ul style="list-style-type: none">• Deployment of object detection models on Jetson Xavier AGX with tensorRT optimization. <p>Max Planck Institute Extraterrestrial Physics, Germany <i>Research Intern Deep learning on FPGA</i> April - August,2020</p> <ul style="list-style-type: none">• 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 <p>BMW Group / TUM Autonomous Driving Campus, Germany <i>Research Intern HW/SW Optimization of CNNs</i> July - December, 2019</p> <ul style="list-style-type: none">• 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 Fafous <p>GE-Healthcare, Germany <i>Intern Software Test Engineering - Automation</i> March - June, 2019</p>

- 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 → 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

FPGA Implementation of IDEA Algorithm

April, 2018 - June, 2018

- Implementation of IDEA algorithm on the Spartan-3E FPGA using VHDL.

HONORS &
AWARDS

- *Recipient*, EPFL Global Leaders doctoral fellowship, 2021-2025.
- *Recipient*, International research stays scholarship for computer scientists (DAAD- IFI), 2020.
- *Top 50 candidates*, 9th National Chemistry Talent Contest(NCTC), Pakistan , 2012.
- *Recipient*, NUST Academic Merit Scholarship, 2013 - 2017.
- *Captain*, Table Tennis Team, Nust-SEECS, 2016 - 2017
- *Winner*, National Table Tennis Tournament, Fast-Islamabad, Pakistan, 2016 - 2017