

Educational Background

2019
2022

PhD Computer Sciences / Electrical & Electronics Engineering (Dual-Degree),
INSA Rouen Normandie, France & University Teknologi PETRONAS, Malaysia,
Funded by: Agence Nationale de la Recherche (ANR) project ICUB,
Supervisors: Prof. Samia Ainouz (INSA), Asst. Prof. Naufal Bin Saad (UTP)
Thesis: Specular Highlight Detection and Adversarial Generation of Specularity-Free Images using Multi-Domain Translation Network Trained with Polarimetric Data

2016
2017

MSc Electrical & Electronics Engineering,
University Teknologi PETRONAS, Perak Malaysia,
Supervisor: Asst. Prof. Syed Saad Azhar Ali
Thesis: Real-time underwater 3D scene reconstruction using Kinect v2 time of flight camera

2001
2004

B.E. Mechatronics,
Major: Robotics, Control Systems and Image processing,
National University of Sciences & Technology (NUST), Pakistan,
Supervisor: Dr. Saeed Ur Rahman
Thesis: Development and control of Bipedal Autonomous Robot (BART)

Research Interests

- 3D Human Pose Estimation applications
- Generative AI applications
- 3D Sensing and Robotic Perception
- Semantic Segmentation and Scene Understanding
- Mobile Robot design and development

Publications

- [1] Atif Anwer, Samia Ainouz, Naufal M Saad, Syed Saad Azhar Ali, and Fabrice Meriaudeau. *Joint network for specular highlight detection and adversarial generation of specular-free images trained with polarimetric data.* *Neurocomputing*, 559:126769, 2023.
- [2] Clément Germanèse, Fabrice Meriaudeau, Pétra Eid, Ramin Tadayoni, Dominique Ginhac, Atif Anwer, Steinberg Laure-Anne, Charles Guenancia, Catherine Creuzot-Garcher, Pierre-Henry Gabrielle, et al. *A Retinal Oct-Angiography and Cardiovascular STatus (RASTA) Dataset on Swept-Source Microvascular Imaging for Cardiovascular Risk Assessment.* 2023.
- [3] Atif Anwer, Samia Ainouz, Mohamad Naufal Mohamad Saad, Syed Saad Azhar Ali, and Fabrice Meriaudeau. *SpecSeg network for specular highlight detection and segmentation in real-world images.* *Sensors*, 22(17):6552, 2022.

- [4] Atif Anwer, Syed Saad Azhar Ali, Amjad Khan, and Fabrice Meriaudeau. *Underwater 3D scanning using Kinect v2 time of flight camera*. In *Quality Control by Artificial Vision 2017 (QCAV '17), Thirteenth International Conference on*, volume 10338. SPIE, 2017.
- [5] Atif Anwer, Syed Saad Azhar Ali, Amjad Khan, and Fabrice Meriaudeau. *Underwater 3D Scene Reconstruction Using Kinect v2 Based on Physical Models for Refraction and Time of Flight Correction*. *IEEE Access*, 5:15960–15970, 2017.
- [6] Atif Anwer, Syed Saad Azhar Ali, Amjad Khan, and Fabrice Meriaudeau. *Underwater 3D scanning using Kinect v2 time of flight camera*. In *The International Conference on Quality Control by Artificial Vision 2017*, 2017.
- [7] Atif Anwer, Fabrice Mériaudeau, and Syed Hasan Adil. *Customized graphical user interface implementation of Kinect Fusion for underwater application*. In *2017 IEEE 7th International Conference on Underwater System Technology: Theory and Applications (USYS)*, pages 1–6. IEEE, 2017.
- [8] Atif Anwer, Syed Saad Azhar Ali, Amjad Khan, and Fabrice Mériaudeau. *Real-time underwater 3D scene reconstruction using commercial depth sensor*. In *2016 IEEE International Conference on Underwater System Technology: Theory and Applications (USYS)*, pages 67–70. IEEE, 2016.
- [9] Atif Anwer, Syed Saad Azhar Ali, and Fabrice Mériaudeau. *Underwater online 3D mapping and scene reconstruction using low cost Kinect RGB-D sensor*. In *2016 6th International Conference on Intelligent and Advanced Systems (ICIAS)*, pages 1–6. IEEE, 2016.
- [10] Atif Anwer, Asim Baig, and Rab Nawaz. *Calculating real world object dimensions from Kinect RGB-D image using dynamic resolution*. In *2015 12th International Bhurban Conference on Applied Sciences and Technology (IBCAST)*, pages 198–203. IEEE, 2015.

Professional Experience

2022

Machine Learning R&D Engineer, *Apeira Technologies*, Le Creusot, France

Tasked with research and development of human post-estimation and posture correction algorithms to improve cyclist performance.

2022

Postdoctoral Researcher, *Université de Bourgogne*, Dijon, France

Tasked with development of segmentation and classification techniques on OCT images for prediction of cardiovascular disease.

Development of software pipeline for end-to-end detection, segmentation, and analysis of Tunnelling Electron Microscopy (TEM) images of nanoparticles.

2018
2020

Freelance 3D CAD & Graphic Designer, *Freelancer.com*

Executed multiple 3D CAD modelling and graphic design projects from concept to prototype to completion.

2015
2016

Co-Founder & CTO, *Scifacterz*, Islamabad, Pakistan

Robotics Startup venture centred on design and of “NBE (Non-Biological Entity)” an open-source, low cost, research platform and Home Service Robot

2004

2016

Manager (Mechatronics), Islamabad, Pakistan

Multiple diverse industry roles involving concurrent responsibilities in Mechanical and Electronic Design research, and documentation.

Select Projects

SpecSeg

Category 2

This repository is the implementation of our paper 'Spec-Seg Network for Specular Highlight Detection and Segmentation in Real-World Images'. The developed network and pretrained weights can be used for network training and testing. Please cite the paper if you use them and find them useful.

Teaching Experience

2023

Masters Course (MSc Health AI), Image Processing, University de Bourgogne, Département IEM (Informatique Electronique Mécanique)
University de Bourgogne, France

2022

Undergraduate Course, Data Analysis and Digital Tools, Département Informatique et technologie de l'information, INSA Rouen, France

2021

Undergraduate Course, Data Analysis and Digital Tools, Département Informatique et technologie de l'information, INSA Rouen, France

2021

Lab Assistant, Soyez Acteurs du Web!, Département Informatique et technologie de l'information, INSA Rouen, France

2019

Teaching Assistant, Probability & Statistics, Department of Electrical & Electronics Engineering, UTP, Malaysia

Languages

Urdu Native

English Fluent

IELTS (Band 8.0)

French Basic

Good Understanding, Medium Speaking

Skills

Frameworks and Languages Python, TensorFlow, OpenCV, MATLAB, C#, Visual Basic, HTML, CSS

3D Modelling and Rendering PTC Creo, Sketchup, Blender

Design and Illustration Adobe Photoshop, Affinity Designer, Figma, Corel Draw

Misc Git, \LaTeX , WordPress, 3D Printing

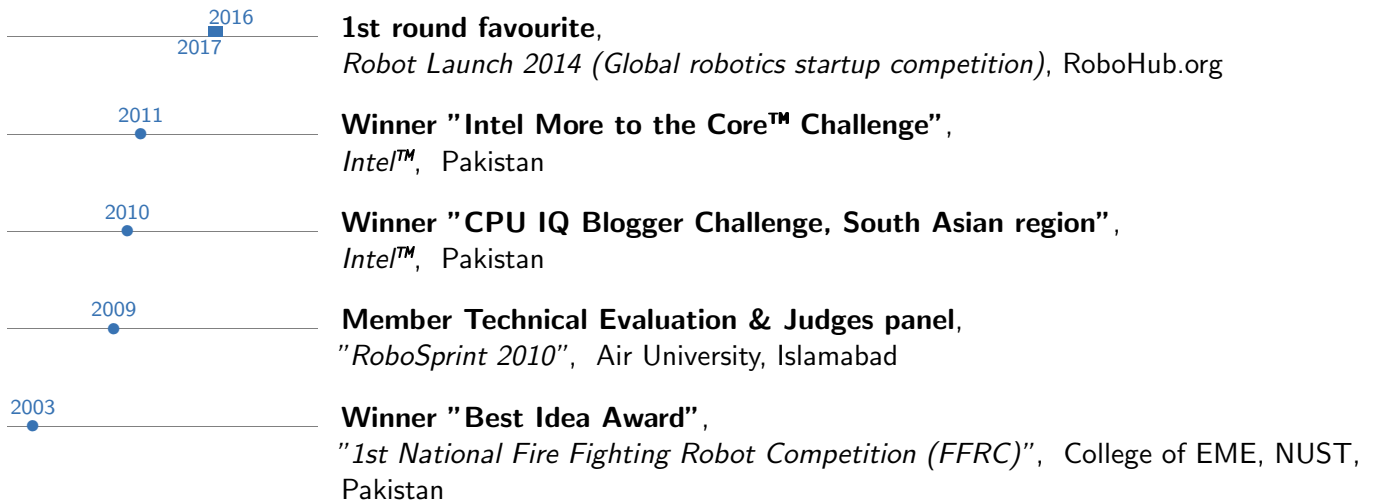
Achievements

2019
2020

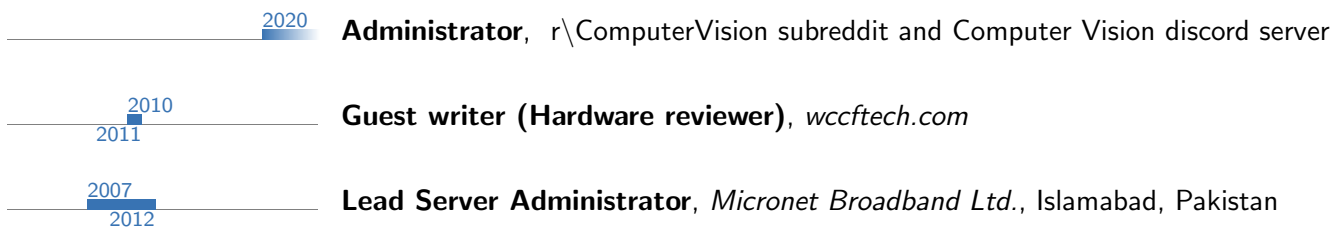
Graduate Assistant Scholarship,
Universiti Teknologi PETRONAS, Malaysia

2016
2017

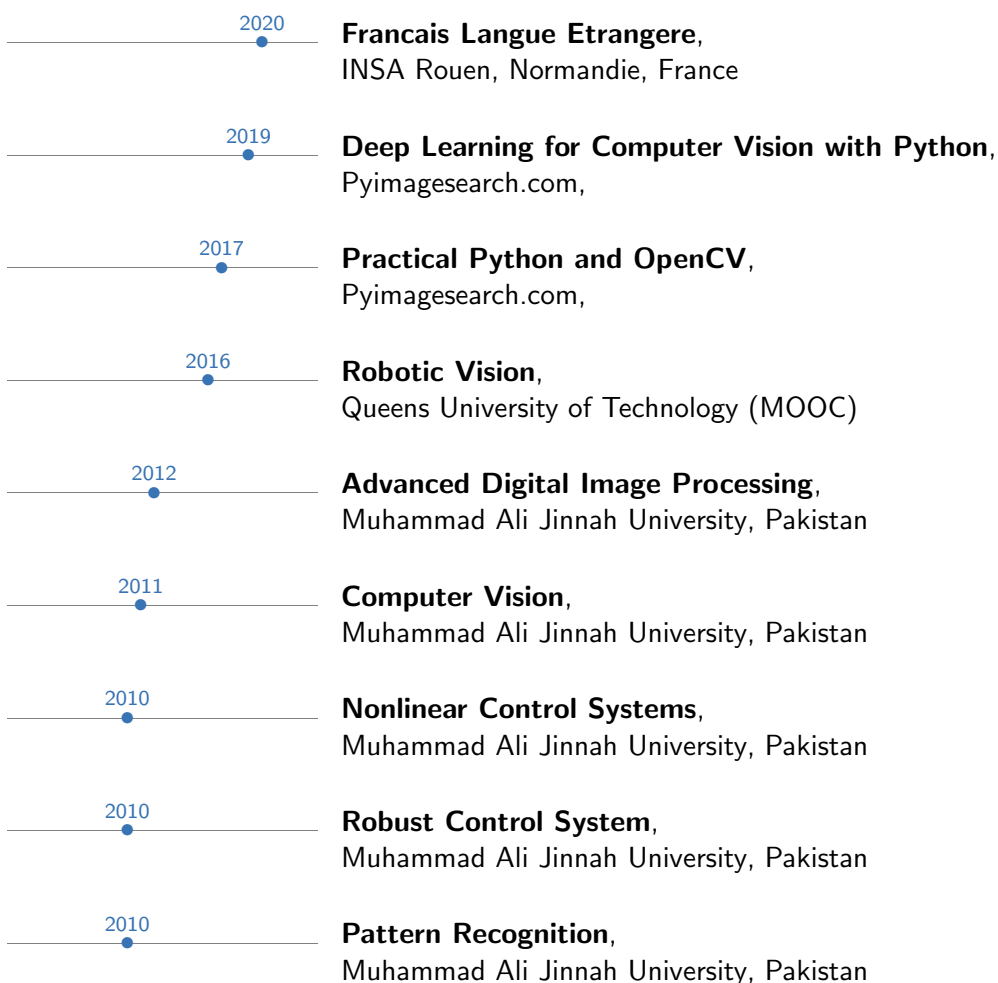
Graduate Assistant Scholarship,
Universiti Teknologi PETRONAS, Malaysia



Extra Curricular/Pro-Bono



Courses & Certificates



References

Fabrice Mériaudeau

Professor,

ICMUB Institute of Molecular Chemistry
of the University of Burgundy (ICMUB)
University de Bourgogne, France

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Professor,

Laboratoire d'Informatique, du Traite-
ment de l'Information et des Systèmes
(LITIS) Lab

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