

RAO MUHAMMAD UMER

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Moblie #: +92 336 7675246
PhD student, Machine Learning and Perception Lab,
University of Udine, Italy.

Research Interests

Image Restoration, Camera pipeline, Computer Vision, Machine Learning, Deep Learning.

Professional Experience

- SEP 2018 **Research Fellow**, *Computational Imaging Group (CIG)* at the Skolkovo Institute of Science and Technology, Moscow, Russia.
- NOV 2016 - 2017 **Lecturer**, *Department of CS & IT, The University of Lahore*, Lahore, Pakistan.
Taught courses: • Computer Vision, • Data Structures and Algorithms, • Digital Logic Design, • Business Computing, • Programming Fundamentals - I, • Introduction to Information and Communication Technologies.
Note: All taught courses materials are available at: <https://raoumer.github.io/courses.html>

Education

- NOV 2018 - 2021 **PhD in Computer Science (Continue)**, *University of Udine*, Udine, Italy.
Research Area: Computer Vision and Deep Learning
- NOV 2014 - 2016 **MS in Computer Science**, *Pakistan Institute of Engineering and Applied Sciences*, Nilore, Islamabad, Pakistan.
Area: Computational Intelligence and Machine Learning
CGPA: 3.45/4.0, ranked in top 5% of the class.
- SEP 2010 - 2014 **BSc. in Computer Systems Engineering**, *The Islamia University of Bahawalpur*, Bahawalpur, Pakistan.
Major Subjects: AI, Parallel and Distributed Computing, Image Processing
CGPA: 3.82/4.0, ranked in top 5% of the class.
- SEP 2008 - 2010 **FSc. in Pre-Engineering**, *Government Post Graduate College*, Sahiwal, Pakistan.
Major Subjects: Mathematics, Physics, Chemistry
Percentage average: 86%, 943/1100 Marks.
- MAR 2006 - 2008 **Matriculation in Science**, *Lasani Public High School*, Sahiwal, Pakistan.
Major Subjects: Mathematics, Physics, Chemistry, Biology
Percentage average: 92%, 783/850 Marks.

Research Publications

- ICPR 2020 **Rao Muhammad Umer**, Gian Luca Foresti, and Christian Micheloni. “*Deep Iterative Residual Convolutional Network for Single Image Super-Resolution*”. (To be appeared) In proceedings of the IEEE International Conference on Pattern Recognition (ICPR), Jan 10–15, 2021, Italy.
- ECCV 2020 **Rao Muhammad Umer**, and Christian Micheloni. “*Deep Cyclic Generative Adversarial Residual Convolutional Networks for Real Image Super-Resolution*”. In proceedings of European Conference on Computer Vision (ECCV) Workshops, August 24–28, 2020, UK.
- ECCV 2020 Pengxu Wei, Hannan Lu, Radu Timofte, Liang Lin, Wangmeng Zuo, and others. “*AIM 2020 Challenge on Real Image Super-Resolution: Methods and Results*”. In proceedings of European Conference on Computer Vision (ECCV) Workshops, August 24–28, 2020, UK.
- ECCV 2020 Kai Zhang, Martin Danelljan, Yawei Li, Radu Timofte and others. “*AIM 2020 Challenge on Efficient Super-Resolution: Methods and Results*”. In proceedings of European Conference on Computer Vision (ECCV) Workshops, August 24–28, 2020, UK.
- CVPR 2020 **Rao Muhammad Umer**, Gian Luca Foresti, and Christian Micheloni. “*Deep Generative Adversarial Residual Convolutional Networks for Real-World Super-Resolution*”. In proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, June 14–19, 2020, USA.
- CVPR 2020 Andreas Lugmayr, Martin Danelljan, Radu Timofte, and others. “*NTIRE 2020 Challenge on Real-World Image Super-Resolution: Methods and Results*”. In proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, June 14–19, 2020, USA.
- ICDSC 2019 **Rao Muhammad Umer**, Gian Luca Foresti, and Christian Micheloni. “*Deep Super-Resolution Network for Single Image Super-Resolution with Realistic Degradations*”. In 13th International Conference on Distributed Smart Cameras (ICDSC), Sept. 9-11, 2019, Trento, Italy.
- OCT 2016 **Rao Muhammad Umer**. “*Deep Web Extractor (DWX): Content Discovery From Deep Web Using Large Scale Data Analytics Paradigm*”. MS Thesis, Pakistan Institute of Engineering and Applied Sciences, Islamabad, Pakistan.
- SEP 2014 **Rao Muhammad Umer**, “*Spam Filtering System: Malicious Email Detection and Filtering System Using Bayesian Machine Learning Algorithm*”. Technical Report, The Islamia University of Bahawalpur, Bahawalpur, Pakistan.

Note: Links to the papers available at: <https://raoumer.github.io/#open>

Given Seminars

- MAY 2020 **Deep Neural Networks for Super-Resolution**, *Deep Learning and more for Computer Vision Applications*, Universit Politecnica delle Marche (UNIVPM), Italy.
- AUG 2016 **Deep Learning & GPUs**, *Introduction to DNNs workshop*, Pakistan Institute of Engineering and Applied Sciences, Islamabad, Pakistan.
- FEB 2016 **Implementation of Linear Regression and Multi-variate Regression on GPU using Cuda C/C++**, *GPU Computing workshop*, Pakistan Institute of Engineering and Applied Sciences, Islamabad, Pakistan.

Honors and Awards

NOV 2018 - 2021	PhD Fellowship , <i>sponsored by Italian Govt. for PhD in Computer Science.</i>
OCT 2016	Best MS Thesis Award , <i>from Department of Computer and Information Sciences, PIEAS, Islamabad, Pakistan.</i>
NOV 2014 - 2016	PIEAS Fellowship by PIEAS IT-Endowment Fund , <i>sponsored by Higher Education Commission(HEC) for MS Computer Science.</i>
SEP 2010 - 2014	Fully Funded National ICT Scholarship , <i>by National ICT R & D Fund for BSc. Computer Systems Engineering.</i>
JUN 2011 - 2014	Position Scholarship , <i>by University College of Engineering and Technology, The Islamia University of Bahawalpur for excellent academic performance throughout undergraduate degree.</i>
SEP 2010 - 2014	Merit Scholarship , <i>by Punjab Educational Endowment Fund(PEEF) for excellent academic performance in higher secondary school examination.</i>
SEP 2008 - 2010	Merit Scholarship , <i>by Multan Board of Intermediate and Secondary Education for excellent academic performance in secondary school examination.</i>
MAR 2006 - 2008	Merit Scholarship , <i>by Multan Board of Intermediate and Secondary Education for excellent academic performance in District level school examination.</i>

Skills

Languages	• Native: Urdu, Punjabi	• English: Fluent
Hobbies	• Cricket, Running	• Reading World History
Programming	Python, C/C++, Java.	
Scientific Software	Pytorch, Cuda C/C++, Numpy, Flask, Git, Latex.	
Computer Skills	Experienced in managing Linux and Windows systems.	