

# Omar Raafat Elezabi

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## Education

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**JMU: Julius-Maximilians-Universität Würzburg** Oct. 2023 – Sep 2027

*Doctorate/PhD in Computer Science (Computer Vision)*

- **PhD Thesis:** Professional Quality Photography For Normal Users. Supervised By [Prof. Radu Timofte](#).

**NTNU: Norwegian University of Science and Technology** Aug. 2021 – Sep 2023

*Master's Degree in Computational Imaging - COSI*

**Grade:** 4.25/5 (Very Good).

- **Master's Thesis:** Learned Based Image Processing Pipeline (ISP) for Mobile. Supervised By [Prof. Radu Timofte](#).

**Mansoura University** Sep. 2015 – Aug 2020

*Bachelor's Degree in Computer Sciences and Systems Engineering.*

**Grade:** 88.39/100 (Excellent with Honors).

- **Bachelor's Thesis:** [Multi-Model System for Driver Distraction Detection and Elimination](#). Supervised By [Dr. John Zaki](#).
- Supported by the **Valeo Group Mentorship Program**.

## Experience

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**Universität Würzburg CVLab, Computer Vision Researcher** October 2023 – Present

*Computational Photography | Image Processing | Computer Vision*

- Working on various Low-level Vision, Image Processing, and Computational Photography Problems.

**Universität Würzburg CVLab, Research Intern** January 2023 – September 2023

*Computational Photography | Image Processing | Computer Vision*

- Developed a learning-based Image Signal Processing Pipeline (ISP) for mobile cameras.
- Investigated and addressed the drawbacks of the current leaning-based ISP approaches like efficiency, flexibility, and robustness.

**DxO, Image Processing Intern** June 2022 – July 2022

*Computational Photography | Color Rendering | C++*

- Implemented LUT-based Color Rendering with raw images and jpeg images.
- Investigated different stages of PhotoLab image processing pipeline to integrate the LUT-based Color Rendering with PhotoLab Pipeline.

**RDI, Machine Learning Researcher** November 2020 – August 2021

*OCR | ASR | Kaldi | TensorFlow | PyTorch | OpenCV | Python | Flask*

- Developed SOTA Optical Character Recognition system for digital documents obtained with different acquisition methods (scanners, cameras, ..) and contains different languages (Arabic, English, French, and German).
- Developed a system for information extraction from National ID cards.

**Orange Labs Egypt, Data Scientist** February 2020 – October 2020

*Object Segmentation | Data Analysis | Python | Pytorch | Pandas*

- Conducted a literature review on the topic of segmentation and adapted different segmentation algorithms for breast cancer segmentation on histology images achieving state-of-the-art results on BACH dataset.
- Analysed business data with millions of records to investigate the reasons for orders price change after the initial price estimation to eliminate it and increase costumers satisfaction.

**Valeo Egypt, Deep Learning Research Intern** June 2019 – September 2019

*Object Detection | YOLOv3 | Angel Prediction | Data Annotation | Python | Pytorch*

- Modified YOLOv3 architecture for detecting the objects in Urban roads in Egypt by adding an angle to predict oriented bound boxes, and investigated different angle representations to obtain the best performance.
- Utilized the output of the object detection algorithm to automate the safety scoring of urban roads and published the results as a journal paper MDPI Applied Sciences.

## Publications

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- \* **Omar Elezabi**, Eduard Zamfir, Zongwei Wu, and Radu Timofte, "Language-Free Generative Editing from One Visual Example" (**IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)**, 2026).
- \* **Omar Elezabi**, Marcos V. Conde, Zongwei Wu, and Radu Timofte, "INRetouch: Context Aware Implicit Neural Representation for Photography Retouching" (**IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)**, 2026).
- \* **Omar Elezabi**, Zongwei Wu, and Radu Timofte, "Enhanced Super-Resolution Training via Mimicked Alignment for Real-World Scenes" (**CVF Asian Conference on Computer Vision (ACCV)**, 2024).
- \* **Omar Elezabi**, Marcos V. Conde, and Radu Timofte, "Simple Image Signal Processing using Global Context Guidance" (**IEEE International Conference on Image Processing (ICIP)**, 2024).
- \* **Omar Elezabi**, Sebastien Guesney-Bodet, and Jean-Baptiste Thomas, "Impact of Exposure and Illumination on Texture Classification Based on Raw Spectral Filter Array Images" (**MDPI Sensors Journal**, 2023).
- \* Giorgio Trumpy, Casper Find Andersen, Ivar Farup, and **Omar Elezabi**, "Mapping quantitative observer metamerism of displays" (**MDPI Journal of Imaging**, 2023).
- \* Hesham M. Eraqi, Karim Soliman, Hossam Abdelgawad, Dalia Said, **Omar R. Elezaby**, and Mohamed N. Moustafa, "Automatic Roadway Features Detection with Oriented Object Detection" (**MDPI Applied Sciences Journal**, 2021).
- \* Abdulrahman Abououf, Ibrahim Sobh, Mohammad Nasser, Omar Alsaqa, **Omar Elezaby**, and John Zaki, "Multi-Model System for Driver Distraction Detection and Elimination" (**IEEE Access**, 2022).

## Academic Service

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- **Reviewer:** CVPR, ICCV, ECCV.
- **Conference Workshops:** NTIRE Photography Retouching Transfer Challenge, CVPR 2026
- **Teaching Assistant:** Computer Vision, Image Processing and Computational Photography, Computer Graphics(2022).

## Skills

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- **Languages:** Python, Matlab, C, C++, C#, SQL
- **Concepts:** Problem Solving, Data Structure, Algorithms, Machine Learning, Deep Learning, Computer Vision, Image Processing, Computational Photography, OOP, Linux, Database.
- **Technologies:** PyTorch, TensorFlow, Keras, OpenCV, Scikit-Learn, Pandas, Docker, Flask, git, LaTeX.

## Languages

**Arabic:** Native

**English:** Professional (IELTS score of C1)

**German:** A2

## Achievements and Awards

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- Erasmus Mundus Joint Masters Full scholarship. Selected as one of the 18 recipients out of 350 applicants.
- 2nd Place in Dell Technologies Envision the Future Competition 2019-2020 out of 227 teams.
- 3rd place in Raisa Energy Environmental Sustainability Data Science Hackathon.
- 27th place in ECPC 2017 (Egyptian Collegiate Programming Contest) out of 125 teams.
- Qualified to ACM-ACPC (ACM Arab Collegiate Programming Contest) 2017.

## Extracurricular Activities

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- Machine Learning Circle Leader - CAT Reloaded.
- EED Volunteer (Egyptian Engineering Day) - IEEE Young Professionals Egypt.
- Code Steps 1.0 Project Manager and Logistics Volunteer - IEEE Mansoura Student Branch.
- Instructor & Technical Volunteer - ACM Mansoura student chapter.