

Arsalan KHAWAJA



PROFILE

Dynamic and innovative researcher passionate about solving technological challenges and designing sustainable solutions.

CONTACT DETAILS

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PERSONAL INFORMATION

Languages: **English** (C1), **French** (A2), **Urdu** (Native).

SKILLS

- **Programming Languages:** C++, Python, MATLAB, Git, Linux.
- **Deep Learning Libraries:** PyTorch, Tensorflow, Keras.
- **3D Design and Development:** CATIA, Modelica, LabVIEW, SOLIDWORKS, Blender.
- **Version Control and Project Management:** Git, Jira, Trello, Agile Software Development.
- **Writing and Presentation Skills** MS Word, Excel, PowerPoint, $\LaTeX$.
- Good communication and team collaboration skills.

EXPERIENCE

JOINT PHD CANDIDATE at *NTNU, Gjøvik, Norway and UB, Dijon, France*
2021–2025

◇ Project: Machine Learning for Acquisition and Modelling of Surfaces.

INTERN at *Endoscopy and Computer Vision Research Group (EnCoV), Clermont-Ferrand, France.*
2021–2021

◇ Project: Computer Assisted Open Liver Surgery

KEY PROJECTS

◇ 3D Registration of preoperative volumetric liver data with intraoperative scene for open surgery configuration. [Project link](#)

◇ Research and development for optimizing acquisition methods for Reflectance Transformation Imaging (PhD Work). [Project link](#), [Google Scholar](#)

◇ Segmentation of Left Ventricle and calculation of ejection fraction ratio on Medical Images, [Github project link](#)

◇ Segmentation of Prostate using active contour method. [Github project link](#)

EDUCATION

MASTER (M.SC) IN COMPUTER VISION (ViBOT), *University of Burgundy, France.*
2019–2021

BACHELOR (B.SC) IN AEROSPACE ENGINEERING, *Institute of Space Technology, Pakistan.*
2014–2018

◇ Gold Medal for Best Research Paper titled "Robust Control of Inverted Pendulum". Pakistan.

SCIENTIFIC PUBLICATIONS

◇ Khawaja, M.A., George, S., Marzani, F., Hardeberg, J.Y. and Mansouri, A., 2023. **An interactive method for adaptive acquisition in Reflectance Transformation Imaging for cultural heritage.** In Proceedings of the IEEE/CVF International Conference on Computer Vision Workshop (pp. 1698-1706).

◇ Khawaja, M.A., George, S., Marzani, F., Hardeberg, J.Y. and Mansouri, A., 2024. **Self-supervised classification of surfaces using reflectance transformation imaging.** In Proceedings of the 12th Colour and Visual Computing Symposium (CVCS 2024)

◇ Khawaja, M.A., George, S., Marzani, F., Hardeberg, J.Y. and Mansouri, A., 2023, June. **Can Surface Topography give us Best Light Positions for Reflectance Transformation Imaging?.** In Archiving Conference (Vol. 20, pp. 12-17). Society for Imaging Science and Technology.