

MÉLANIE BRÉGOU

Dual master's degree in computer vision, IA & AR/VR currently at ESA for an end-of-studies internship.

Looking for a **full time role** from September/October 2024.

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in melanie-bregou

🌐 portfolio

SKILLS

Programming : Python (Sklearn, OpenCV, Tensorflow, PyTorch), Unity (C#), Matlab, Java, SQL, Bash, Git, Blender, R, React

Soft skills & Languages : Teamwork, Communication, Leadership, Fast learner, French (C2), English (C1), Spanish (B2)

EXPERIENCE

European Space Agency - *Mixed-Reality Intern*

March - Sept 2024

Cologne, Germany

- Design, develop, and implement an **AR** application to assist astronauts during medical procedures particularly for extended missions where telemedicine and returning to Earth are not feasible.
- Utilize the **Magic Leap 2 headset** to integrate **image processing** and **computer vision** algorithms for pose model detection and **spatial meshing** enabling the rendering of 3D information essential for medical procedures.

Computer vision - Image processing - Unity (C#) - Magic Leap 2 AR headset

Hillo - *Data Scientist Intern*

Summer 2023

Paris, France

Developed algorithms for **automatic data sorting** and glycemic **pattern detection** from diabetic patient datasets.

Machine learning - Python - Azure DevOps

Foch Hospital - *Data Analyst Intern*

Summer 2022

Suresnes, France

Developed a graphical interface to **process, visualize and analyze clinical data** using R.

Data visualization - R

VocaCoach - *Project manager*

2021 - 2022

Evry, France

Coordinating a team of 9 students to create a **database for a machine learning model** which analyzes oral expressions.

Awarded project Leadership - Management - Communication - Data collection

EDUCATION

Institut Polytechnique de Paris

2024

Double **Master's degree** with courses including **Computer vision, AR/VR, IA, Computer graphics, Human-computer interfaces, Social robotics, Image processing, Digital content protection, 3D reconstruction, e-Health and Bio imaging**

Projects : HoloLens & MetaQuest game development, Lung segmentation, Surgical Tools detection, Photogrammetry, ...

Télécom SudParis

2021 - 2024

Bachelor & Masters level in a highly competitive French "Grandes Ecoles" specialized in Computer science

Classes include: **Machine learning, Deep learning**, Networks, Electronics, Development, Mathematics, **e-health track**

Polytechnique Montréal Exchange semester : Aeronautics, AI, Biomedical Imaging, Entrepreneurship

2022

Classe préparatoire aux Grandes écoles : Saint-Louis Paris

2019 - 2021

Intensive preparation in Mathematics, Physics, Computer Science for the competitive exams to enter "Grandes Ecoles"

EXTRA-CURRICULAR

Hackathons : **First prize** obtained developing a **machine learning model** predicting the conservation of species at Genopole

Associations : Corporate relations officer at Student Art club, Member of the **photography club**

Sport & Music : Tennis (**Gold medal** at tennis national French championship UNSS 2019 in team), Bouldering, Guitar, Piano

Traveling : Canada (6 months), Germany (6 months), UK (2 months), Ireland (1 month)