Join **M-XR** 👋

ML/AI | Infra, Eng & Data Ops

Image-to-Material Initiative

London preferred | Full-time | Visa sponsorship available

Our Vision

From blockbuster films and AAA games to immersive experiences, the demand for photoreal 3D content has never been higher - but creating photorealistic assets is slow, expensive, and manual with no current scalable solution available.

At M-XR, we've been on a mission to democratize the creation of high-quality 3D assets with our proprietary technology Marso, which allows anyone to capture real-world objects into production-ready photorealistic digital twins with unmatched material (PBR) accuracy - enabling the first real-world PBR capture pipeline that can operate anywhere. Marso is trusted by the most demanding studios in film and gaming.

We see the future of 3D being AI-assisted, and we're building the tech to make that happen.

We believe that quality data is the unlock, and at M-XR we have the capture technology building the dataset. See the result yourself Passcode: scaneverything

About the Project

At M-XR we developed **Marso** as a way to capture real-world PBR material data alongside conventional photogrammetry, from simple flash photography. Marso is now actively being used by an array of studios, brands & museums to digitize previously unobtainable assets at scale. This gives us one of the most unique and physically accurate 3D datasets in the world.

Now, we're taking it further - we're building an ML-powered pipeline that can automatically predict material properties (diffuse, roughness, specular, metallic, normals) from photogrammetry input alone - without flash. This is made possible by tapping into our uniquely rich dataset of real-world material scansOur goal is to remove the need for manual texturing and enable full end-to-end automation, from photos to PBR assets at high fidelity and scale.

You'll be working with a rare kind of dataset: real-world, multi-view image data paired with true measured PBR maps. Most datasets in this space are artist-created - as ours is captured from reality, it allows us to push generalization and accuracy far beyond existing models.

We call this technology 'image-to-material'

As **Machine Learning Engineer & Ops** you'll play a key role in ensuring that data is usable at scale. You'll build tools that process raw scans, validate asset quality, launch automated renders in Blender, and prepare everything the ML team needs to train, iterate, and deploy.

Where You Will Have Impact

You'll own the infrastructure and tooling that enables fast, reliable experimentation and production-scale model training at M-XR. You will:

- Manage data flow from raw asset to training-ready format
- Build Blender rendering scenes to support both model training and perceptual validation
- Create scalable pipelines for large-scale render jobs and dataset versioning
- Work closely with researchers to surface common bottlenecks and automate repetitive tasks
- Build automated QC & Visual validation tooling to review models performance

What You Will Do

- Build and maintain tools for converting scans (Alembic, textures) into .blend files and aligned training formats
- Design multi-stage scan validation workflows: from file integrity checks to perceptual quality models
- Automate Blender rendering jobs for both synthetic data generation and scan review
- Develop cloud-ready pipelines for rendering and model training on platforms like AWS or Lambda Labs
- Set up logging, experiment tracking, and visual QC tools (e.g., W&B, custom dashboards)
- Collaborate with researchers to turn prototypes into repeatable, production-grade processes
- Work with scan operators to streamline metadata tagging and manual annotation when needed
- Audit and consolidate internal tooling - help merge similar tools and standardize workflows

What We're Looking For

- Solid engineering skills in Python and bash scripting, with strong comfort across command-line tools and automation.
- Experience working with 3D graphics pipelines - especially Blender scripting, Alembic, and texture workflows.
- Familiarity with cloud-based GPU training infrastructure (AWS, Lambda Labs, etc.)
- Experience handling large visual datasets (EXRs, image sequences, structured metadata)
- Understanding of the ML development lifecycle - from raw data to model training and evaluation
- Strong sense of ownership, pragmatism, and a love of building internal tools that others rely on

Bonus Points:

- Experience with inverse rendering frameworks
- Familiarity with UV workflows, photogrammetry, or graphics engines like Unreal
- Contributions to internal ML platforms or MLOps tooling
- Prior experience at a startup or fast-moving R&D environment

What We Offer

- The chance to shape the future of 3D content creation in a fast-moving startup
- Direct contact & close relationships with some of the biggest game & film studios globally using M-XR's technology
- Work with passionate engineers, artists, and researchers at the frontier of graphics & AI
- Unique opportunities for professional growth, autonomy, and leadership
- Competitive salary and equity
- Flexible hybrid working
- Visa sponsorship for international candidates

Interested?

If you are interested in this role, we would love to hear from you!

Please email us at careers@m-xr.com List the job title in the description, and please provide a cover letter & CV.