RESEARCH PLATFORM FOR MEDICAL IMAGING AI

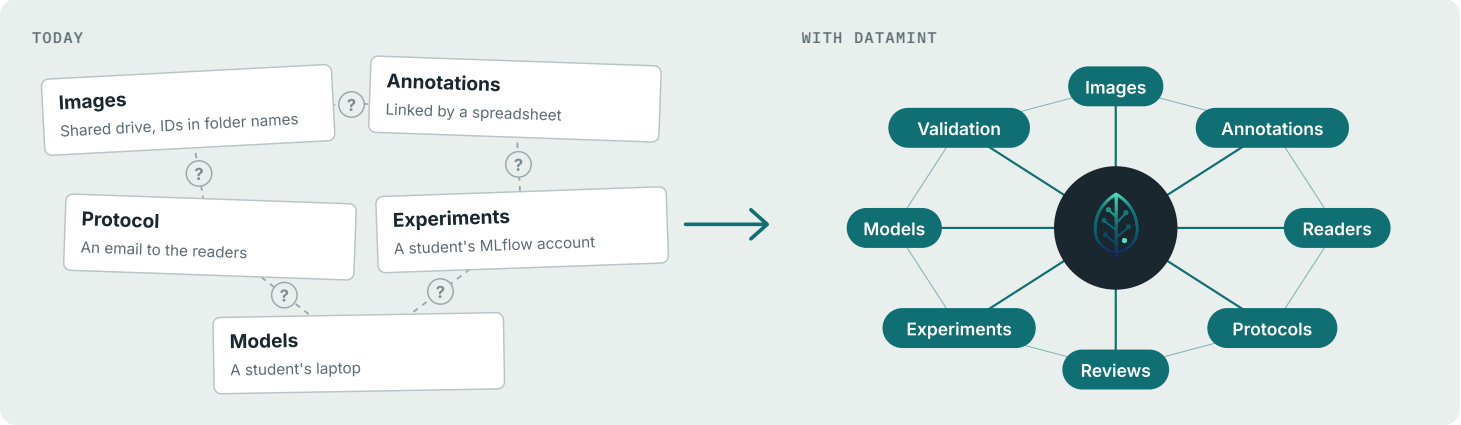
Keep your whole medical AI project in one place

Datamint holds your images, annotations, experiments, and models, along with the links between them. Your team spends less time keeping track of files, and every result traces back to the data and the people that produced it.

A medical AI project is more than a folder of images

There are a lot of moving parts in a medical AI project. A project includes the images, the annotations and segmentations, who made them and what their qualifications are, who reviewed them, the annotation protocol, the training splits, every experiment and the data it used, each model version, and how each model was validated. Everything is important - all the files, all the links between them, and all the context of those links.

Keeping all of this straight falls to the principal investigator. In most labs the pieces are scattered in different places, held together by folder names, spreadsheets, and optimism. That works for a small pilot study. On a larger project it takes too much of the PI's time, errors creep in, and the record can disappear when a graduate student takes an industry job and their laptop goes into a cupboard. And you start from scratch with every new research project.



Structure you don't have to maintain.

Annotation, experiment tracking, and validation happen in Datamint, so the links are recorded as you work.

Less of the PI's time on bookkeeping.

No spreadsheets linking folders together, and no chasing students for the latest model.

Nothing leaves with a team member.

Protocols, experiments, and models stay with the project when people move on.

Data that gains value over time.

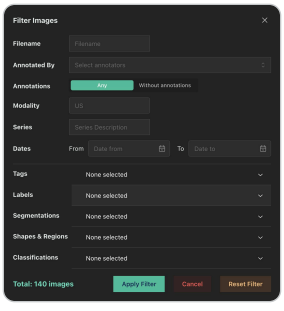
Images and earlier findings are ready to reuse when your research moves in a new direction.

One data library across all your projects

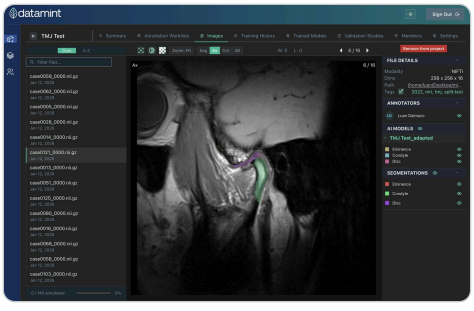
Datamint treats all your files, across every project and every year, as one library. A new project can start from images you already have, along with what earlier projects learned about them.

Find the files you need. Filter the library by filename, modality, series, date, tags, and annotator, or by the labels, segmentations, shapes, and classifications on each file. You can also pull out the files that have not been annotated yet.

See everything recorded about a file. Open any image to see its details, tags, readers, and AI model outputs in one view. Turn each reader's segmentations or a model's output on and off to compare them on the same image.



Combine filters to find the images you need.



One image with its tags, reader, and AI model output. Each segmentation can be turned on and off.

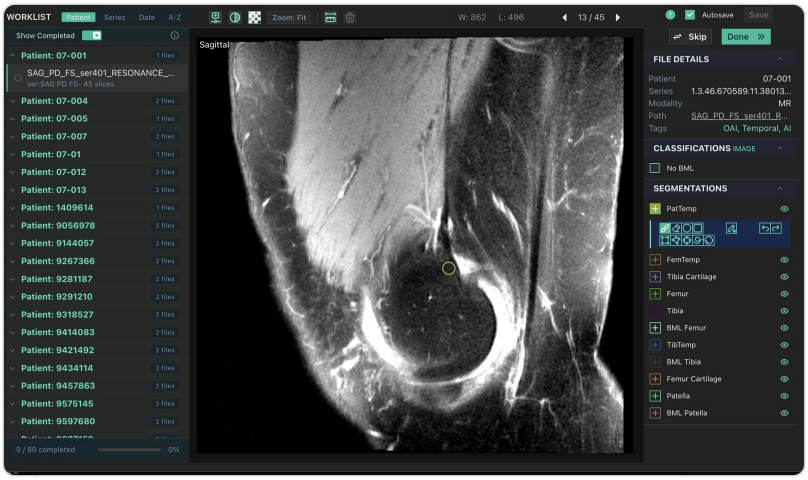
- **Research formats.** DICOM, NIfTI, MP4, JPG, and PNG.
- **Auditable anonymization.** Review web uploads and mask burnt-in patient information before files enter the library. Command-line uploads are anonymized on your computer before anything is sent.
- **Preprocessing.** Crop images, trim videos, remove slices or sections of movies, and mask parts of an image.
- **Your data stays yours.** Download everything, including annotations and segmentations, at any time.

ANNOTATION AND SEGMENTATION

Run annotation projects without the spreadsheets

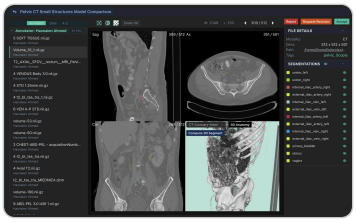
Annotation worklists split a dataset among readers and record every change to the protocol. A worklist can collect whole-image or per-slice labels and categories, segmentations, measurements, shapes, and free text or numbers. Readers can see selected existing annotations for reference, or review and correct AI segmentations as part of the task.

Readers get a focused web interface that shows only what they need and steps them through their assigned files. There is nothing to install, and they can stop and pick up where they left off. Datamint manages permissions and logs access, so you don't have to.



The reader's view. The worklist is on the left, and segmentation tools and labels are on the right.

- **Progress at a glance.** See what has been annotated, what each reader has done, and how close you are to finishing.
- **Review before use.** Require approval of annotations from some or all readers before they go into training or validation sets. Useful for projects that may later seek regulatory clearance, and for training new annotators.
- **Side-by-side comparison.** Toggle segmentations by reader or by AI model to compare them on the same image.
- **Export for analysis.** Download all results as an Excel or CSV file for statistical analysis.


Reviewing a reader's segmentations. Accept, reject, or request a revision.

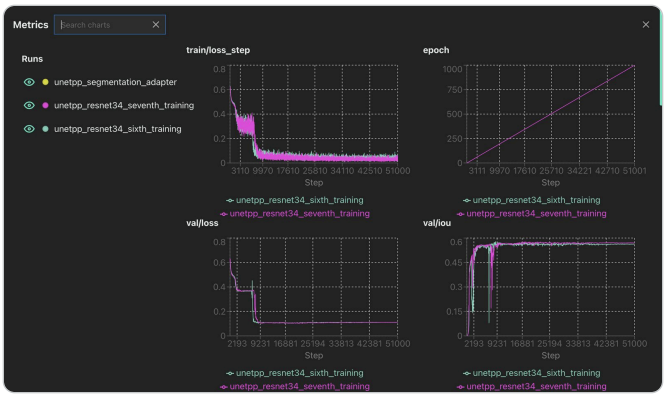

Worklist progress by label and by reader, including new versus approved annotations.

MODEL TRAINING

Every training run, kept with the data it used

Datamint integrates with PyTorch and PyTorch Lightning. One line of code syncs a programmer's training environment with the current images and annotations, so no one trains on an outdated copy of the data. Metrics and results log to Datamint automatically through the built-in MLflow integration, and programmers can log anything else MLflow supports. Trained models are saved to the project, where the PI can review them and run them on any image.

The whole team can see every run, compare results, and build on earlier work. The history is useful when planning new approaches and when bringing new people onto the project.



Compare training runs side by side. Metrics are logged automatically.

Validation studies

When you are satisfied with a model, a validation study collects agreement data from expert readers on its output, using a fresh set of images the model has not seen. The study is structured and traceable, so you can stand behind the results in a paper or a submission.

Command line and Python

Command-line tools upload images and import existing segmentations from tools such as ITK-SNAP and 3D Slicer. The Python library gives full access to the platform, for preprocessing data before it enters a project, retrieving data, scripting your own workflows, and writing standalone demos of models on the platform.

Collaboration

Medical AI research brings together clinicians, imaging scientists, and programmers. Permissions control who can access your account and each project, at several levels of participation. Teams use Datamint to present model results, review segmentations together, and teach groups how to segment specific anatomical structures.

See Datamint with your own project in mind

Book a demo at **datamint.io/contact** or email rfrey@datamint.io.

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