Taiabur Rahman

Freelance ML Engineer · Computer Vision · Medical Imaging · LLM & AI Agents · MLOps

● Available immediately · freelance through my own French SAS · Paris / Île-de-France, on site or remote

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PROFILE

Machine learning engineer with **6+ years of software development** and a research background in medical image analysis. I build **deep learning models for images** (3D segmentation pipeline for 400+ volumes, ICPR 2026), **LLM-based agents and fine-tuning pipelines** in production (Blackbird.AI), and the code around them: data pipelines, APIs, tests, CI/CD, Docker and AWS. Used to turning research code into reliable tools and working with clinicians and non-technical users.

EXPERIENCE

Machine Learning Engineer
Sep 2025 – Jun 2026

Blackbird.AI — New York, USA (Remote) · small engineering team

- Built **reusable ML components** and AI agents used across the team; set up **fine-tuning / retraining pipelines** for vision and language models (LoRA) on **100K+ samples**
- Moved models from research code to production: data pipelines, **Docker**, CI/CD and deployment on **AWS**

Graduate Research Intern — Deep Learning for Large 3D Images
Feb – Aug 2024

INSERM UMR 1231, NEUROGEMM — Dijon, France · Master's thesis

- Built an automated **nnU-Net** pipeline segmenting **26 brain regions** in high-resolution 3D microscopy; Dice above 0.90 in 18 of 26 regions
- Cut segmentation time from about a week of manual work to **under 5 minutes** per brain; ran 400+ volumes on a GPU cluster (Linux, SLURM)

Full-Stack Developer
Dec 2017 – Aug 2022

Vision Eye Hospital (ophthalmology) — Dhaka, Bangladesh

- Designed, built and maintained the hospital information system used daily by **50+ clinical staff**; worked directly with surgeons and clinicians on requirements
- Responsible for releases, data integrity and support of software running in a clinical environment

PROJECTS

IDC Explorer — open-source medical imaging data tool · Python · SQL · DuckDB · pytest
Ask questions about NCI Imaging Data Commons (86,451 patients, CT/MRI and segmentations) and get viewer links, SQL and reproducible code; tested Python package. github.com/taiaburbd/IDC-Explorer

CT Image Registration (MAIA) · Elastix · SimpleITK
Rigid, affine and deformable registration of lung CT (COPDGene), evaluated with landmark error.

3D Brain MRI Segmentation (MAIA) · 3D U-Net · PyTorch · TensorFlow
WM / GM / CSF segmentation from volumetric MRI; **>90% Dice** on the test set.

PUBLICATIONS

Automatic Segmentation for 3D Morphometric Analysis of the Mouse Brain
*ICPR 2026, LNCS vol. 16816, Springer · **T. Rahman** (equal contribution) · doi.org/10.1007/978-3-032-31666-0_46*

Deep learning of longitudinal visual fields predicts glaucoma progression rate (GLAM)
***T. Rahman** (first author) · arXiv:2609.29256, 2026 · in peer review at Scientific Reports*

EDUCATION

Erasmus Mundus Joint Master
Medical Imaging & Applications (MAIA)
Université de Bourgogne (France) · Università di Cassino (Italy) · Universitat de Girona (Spain)
Sep 2022 – Aug 2024
Segmentation · Registration · Surgical Robotics · Computer Vision · Deep Learning. Global mark 7.41/10.

BSc Computer Science & Engineering
Bangladesh University · 2014

TYPICAL MISSIONS

computer vision models · medical imaging AI · LLM / RAG / agents · fine-tuning & evaluation · PoC to production · data pipelines & APIs

TECHNICAL SKILLS

Programming
Python · SQL · PHP / Laravel · Bash

Imaging & vision
SimpleITK · ITK · Elastix · OpenCV · pydicom · 3D Slicer

Deep learning
PyTorch · nnU-Net · MONAI · TensorFlow

Engineering
Linux · Git · Docker · CI/CD · pytest · AWS · SLURM

SCHOOLS & EVENTS

17th EXCITE Summer School
ETH Zurich · Sep 2023 · hands-on SPECT/CT at PSI

Hackathons
HackUPC 2024 · Datathon IA4Care

LANGUAGES

Bengali	Native
English	Fluent (working language)
French	A2 → B1

REFERENCES

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Prof. Arnau Oliver
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