

Nicolas Loiseau

Ph.D. in Computer Science: A.I. and Computer Vision *CREATIS Laboratory, FRANCE.*

Ph.D. in AI specialized in 3D medical imaging. Demonstrated expertise in deep learning on large-scale volumetric images (10,000+ CT-Scans). Strong skills in technical communication and interdisciplinary collaboration. Development of Deep Learning solutions from research to production.

Professional Experience

- 2023 - 2025 **Retail Business Co-Manager**, Ardennes, France.
Day-to-day operational management of a retail store: inventory control, customer relations, and team coordination. Autonomous decision-making and real-time problem-solving. Transferable skills developed prior to relocation to Canada.
- 2019 - 2023 **Ph.D. Researcher in A.I.**, *CREATIS Laboratory, Lyon, France.*
Design of Deep Learning algorithms for 3D medical imaging. Processing of over 10,000 CT-Scan images on HPC infrastructure (GPUs). Collaboration with multidisciplinary teams (physicians, engineers, researchers).
- 2019 - 2023 **Teaching Assistant**, *INSA Lyon & Claude Bernard University Lyon 1, France.*
Teaching in AI (PyTorch), advanced C++ (C++17, STL), embedded programming (C), and networking. Course design and student assessment.
- 2019 **Research Intern**, *CREATIS Laboratory, Lyon, France.*
Development of an AI for automatic scapula segmentation in CT-Scan imaging.

Education

- 2019 - 2023 **Ph.D. in Computer Science**, *CREATIS Laboratory, Lyon, France.*
- 2017 - 2019 **MSc in Computer Science**, *Claude Bernard University Lyon 1, France AI Specialization.*
- 2013 - 2016 **BSc in Computer Science**, *URCA, Reims, France With honors.*

Technical Skills

Languages	Python, C/C++, Java, JavaScript, Kotlin, SQL
AI / ML	PyTorch, TensorFlow, OpenCV, Scikit-learn, Pandas, NumPy
Web / Mobile	ReactJS, Node.js, PostgreSQL, Firebase, REST API
HPC / Tools	CUDA, MPI, OpenMP, Git, Docker, CI/CD, Linux
Languages	French (native), English (fluent)

Publications

- Loiseau, Nicolas, razmig Kéchichian, Sebastien Valette, and Adrien Bartoli (2024). "SP3D: Learning Keypoint Detection and Description in 3D Medical Images". In: *Submitted to Medical Imaging with Deep Learning*. under review.
- Loiseau—Witon, Nicolas, Razmig Kéchichian, Sebastien Valette, and Adrien Bartoli (2021a). "Description de points clés par apprentissage dans des images médicales 3D". In: *ORASIS*.
- (2021b). "Learning 3D medical image keypoint descriptors with the triplet loss". In: *International Journal of Computer Assisted Radiology and Surgery* 17, pp. 141–146.
- (2021c). "Learning 3d medical image patch descriptors with the triplet loss". In: *IPCAI*.

Personal Projects

- 2025–Present **Allomtl (in development)** Application to help Montreal newcomers using City open data.
- 2024–Present **PetPlanner** www.petplanner.fr SaaS platform for pet care professionals (ReactJS, PostgreSQL) with automated booking system.
- 2025–Present **Kaggle Challenge – PhysioNet** ECG segmentation pipeline (UNet, PyTorch) with LMDB optimization and mixed precision.
- 2025–Present **Locatrack** Full-stack property management application with automated document generation (ReactJS, PostgreSQL).
- 2024 **Flagme Google Play** Android mobile game (Kotlin, Firebase) deployed in testing on Play Store.

Interests

Kayak/canoe, climbing, swimming, music (saxophone, piano), leatherworking