Julien de Saint Angel

AI & Machine Learning Engineer
PhD in Applied Computer Science

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Profile

PhD in Applied Computer Science (2025), specialized in advanced neural networks, computer vision, and anomaly detection. Work: initialization method for trainable hyperspherical layers and proposal of an anomaly detection method. Interested in R&D, innovation, deeptech startups, banking, insurance, data, and applied post-docs.

Skills

AI / ML	CNNs, Transformers, autoencoders, hyperspherical models, SVDD, anomaly detection, NLP.
Python	PyTorch, TensorFlow, Scikit-learn, OpenCV, Pandas, FastAPI.
MLOps	Git, Docker, Jupyter, Linux, ML pipelines.
Maths	Optimization, PDEs, conformal geometry, signal processing.
3D / Video	Fusion 360, SolidWorks, Blender, Adobe Premiere, DaVinci Resolve, 3D modeling, video editing.

Experience

2020–2025 **PhD Student in Applied Computer Science, La Rochelle University (MIA)**
Initialization method for hyperspherical layers.
Anomaly detection method, robust on real data.
Vision & signals, international publications (ICMLA, ORASIS).

Feb.–May 2019 **Internship XLIM (UMR 7252) & MIA (EA 3165)**, Supervisors: B. Tremblais, R. Pétéri
Sports gesture characterization using high-speed cameras (critical point trajectory analysis).

May 2018 **Internship LIENSs (UMR 7266)**, Supervisors: E. Poirier, L. Testud
Visual tide gauge: automated reading of a tide scale (computer vision).

Mar.–Jun. 2015 **Internship SYRTE (UMR 8630), Obs. Paris**, Supervisor: J.-Y. Richard
Satellite orbit interpolation algorithms (ODEs, numerical simulation).

2015–2017 **Math Teacher, Lycées Saint-Exupéry, La Rochelle**
Science communication, outreach, teamwork.

Education

2020–2025 **PhD in Applied Computer Science, Univ. La Rochelle, MIA**
Thesis: *Hyperspherical neural networks for anomaly detection*.

2017–2019 **Master's in Mathematics & Applications (MIX), Univ. La Rochelle**, *Honors*
Optimization, PDEs, modeling.

2014–2015 **Master's in Astronomy & Physics, Obs. Paris-Meudon**

2012–2014 **Master's in Mathematics & CAPES, Univ. La Rochelle**

2009–2012 **Bachelor's in Mathematics, Univ. La Rochelle**

Publications

Hyperspherical Layers via CGA, ORASIS 2021.
Multi-Spheres Anomaly Detection, ICMLA 2024.
Improving Multi-Sphere Anomaly Detection, 2025.

Other

Languages	French (native), English (written B2), Spanish & Romanian (B1)
Interests	Astrophotography, bird photography, 3D modeling
Keywords	Artificial Intelligence, Machine Learning, Deep Learning, Computer Vision, Signal Processing, Anomaly Detection, Hyperspherical Neural Networks, SVDD, LLM, RAG, Python, PyTorch, TensorFlow, Scikit-learn, OpenCV, FastAPI, MLOps, Optimization, Modeling, Data Science, Generative AI, Post-doc, R&D, Deeptech Startup, Innovation.