

FELIPE VICENTIN

Machine Learning Researcher & Computer Vision Engineer

Campinas, Brazil | vicentin.xyz | linkedin.com/in/fsvicentin | github.com/Vinschers | codeberg.org/fsvicentin | orcid.org/0009-0002-2833-8452

SUMMARY

Computer vision researcher with a background in optimization, image processing and machine learning from the MVA master's programme (Paris-Saclay) and a BSc in Computer Science (Unicamp). Experience in multi-frame image fusion, variational methods and generative models, with a published paper in lattice theory.

EDUCATION

Université Paris-Saclay, ENS Paris-Saclay

Sep 2025 – Sep 2026

Master of Science (M2), MVA (Mathematics, Vision, Learning)

Paris, France

- Double degree between Unicamp and IP-Paris. Widely regarded as one of the leading machine learning master's programmes worldwide.
- Representation Learning, Convex Optimization, Optimal Transport, Probabilistic Graphical Models, Geometric Deep Learning, Generative Models for Images, Kernel Methods, Reinforcement Learning.
- Generative Models for Images, Large-Scale Model Training and Deployment, Advanced Deep Learning, Time Series, Reinforcement Learning.

Institut Polytechnique de Paris, Télécom Paris

Sep 2024 – Jun 2025

Master of Engineering (Diplôme d'Ingénieur) — Grade: 16.3 / 20

Palaiseau, France

- Alumni excellence scholarship.
- Linear Models, Machine Learning, Variational and Bayesian Methods and Discrete Optimization, Image Learning and Object Recognition, Statistics, 3D Vision and Video.

University of Campinas (Unicamp)

Mar 2021 – Jul 2027 (expected)

BSc in Computer Science — Grade: 9.34 / 10

Campinas, Brazil

- Calculus, Linear Algebra, Discrete Mathematics, Databases, Algorithm Analysis, Data Structures, Operating Systems, Introduction to Cryptography.

Colégio Técnico de Campinas (COTUCA)

Feb 2018 – Dec 2021

Technical Diploma in Computing

Campinas, Brazil

EXPERIENCE

Image Engineering Research Intern

Apr 2026 – Sep 2026

DxO Labs

Boulogne-Billancourt, France

- Researched multi-frame image fusion for denoising in low-light conditions within DxO's research lab, developing code with PyTorch on GPU, NumPy, OpenCV, and matplotlib.
- Achieved a 5 dB PSNR improvement on AWGN noise in RGB images.
- Full-time position (35 h/week) over 6 months, equivalent to the final master's research placement in the French system.
- Supervised by Sylvain Leroy, Thomas Veit and Ricardo Sapaico.

Undergraduate Research Fellow (FAPESP-funded)

Jun 2023 – Jul 2024

Unicamp, IMECC

Campinas, Brazil

- Researched partial orders and lattices over finite chains, advised by Prof. Peter Sussner (Department of Applied Mathematics).
- Developed rigorous proofs on counting and constructing admissible orders of intervals over finite chains, published in Fuzzy Sets and Systems (DOI: 10.1016/j.fss.2025.109372).

Data Engineering Intern

Jan 2021 – Dec 2021

Dextra Systems

Campinas, Brazil

- One-year internship at a large IT consultancy (~1,000 employees), as the only intern in an agile squad delivering to enterprise clients across sectors ranging from food to banking.
- Built PySpark and Delta Lake pipelines on a layered data lake (ingestion, anonymisation for LGPD compliance, standardisation, KPIs) over conversation data, running on GCP with Airflow, Cloud Storage, BigQuery and Dataproc across separate production and staging environments.
- Delivered production pipelines for 4 enterprise clients and 15+ KPIs, including an ML layer running LDA topic modelling over cleaned text.

PROJECTS

vicentin | <https://pypi.org/project/vicentin>

- Python library with a dual-backend architecture that transparently switches between NumPy and PyTorch based on input data, enabling automatic differentiation and GPU use with no API change.
- From-scratch implementations in optimization (Newton, barrier, proximal/ISTA), machine learning (SVM, PCA, kernel methods) and deep learning (VAE, Wasserstein GANs), plus paper reimplementations (Grad-CAM, SimCLR).

Multi-categorical LAFTR

- Implementation of the LAFTR model, extending it to multi-categorical settings. Supervised by Prof. Loïc Le Folgoc.
- Learns representations that stay predictive while making a protected attribute hard to recover — the core problem behind fairness auditing in credit and risk decision systems.

Image restoration

- Implementation of variational techniques (Tychonov and Total Variation) to invert transformation kernels on noisy images, using NumPy and PyTorch. Supervised by Prof. Arthur Leclaire.

SKILLS

Machine Learning: Deep Learning, Computer Vision, CNNs, RNNs, LSTMs, Transformers, Vision Transformers, Autoencoders, VAEs, GANs, U-Nets, Diffusion Models, Image Processing

Data Science: Inferential Statistics, Predictive Modelling, Linear Regression, Decision Trees, Random Forest, XGBoost, Gradient Boosting, SVM, Clustering (k-means), PCA, KPCA, Feature Engineering, Cross-validation, Classification Metrics (precision, recall, AUC-ROC), Time Series, Topic Modelling (LDA), Convex Optimization

Programming: Python, C, C++, SQL, Shell scripting (bash, zsh)

Libraries: PyTorch (CUDA), NumPy, Scikit-learn, Scikit-image, OpenCV, Matplotlib, Pandas, PySpark

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Data & Cloud: PySpark, Delta Lake, Airflow, BigQuery (SQL), Dataproc, Cloud Storage, Data Lake architecture, CI/CD (CircleCI), Sentry

Tools: Git, Docker, LaTeX, Google Cloud Platform, Airflow, Linux

Tools: Git, Docker, LaTeX, Linux

Spoken Languages: Portuguese (native), English (TOEFL 110/120), French (TCF B2)

Returning to Brazil in October 2026, completing the final courses of the Unicamp degree in evening classes. Available for full-time work from October 2026.