Hugo **Vergnes**

AI Research Scientist · AI Scientist

1635 Marina Ct, San Mateo, CA 94403, USA

+1 (650)-799-2974 | hugo.vergnes@gmail.com | hugovergnes.github.io | hugovergnes | Hugo Vergnes

Summary

AI Engineer/Scientist with **5+ years** of experience training and deploying scalable AI systems. Proven track record developing end-to-end ML pipelines, optimizing robust models, and deploying on-device solutions at scale. Specialized in computer vision, video processing, high-performance optimization, and cross-domain scalability.

Work Experience

Apple

Cupertino, California

Machine Learning Engineer — *05/2025 - Current*

- Lead the research and development of deep learning architectures tailored for advanced computer vision and video processing workloads.
- Deployed and optimized on-device AI models for edge hardware, managing strict memory, latency, and power constraints.
- Collaborated with cross-functional engineering teams to integrate machine learning pipelines into production-ready software ecosystems.

Whiterabbit.ai INC

Redwood City, California

AI Research Scientist — *06/2021 - 05/2025*

- Engineered cancer classifiers outperforming human radiologists, significantly enhancing early cancer detection outcomes.
- Led team to pioneer a suite of AI algorithms for assessing diagnostic image quality, outperforming radiologists with over 15 years of experience in sensitivity and specificity.
- Developed AI models from pre-training to deployment, leveraging large-scale medical imaging datasets for robust performance. Designed and executed comprehensive validation studies ensuring clinical reliability and regulatory approval.
- **Skills:** Python, Pytorch, Machine Learning, Computer Vision, LLMs, Distributed computing, Software development, Docker, Linux

Stanford AIMI

Stanford, California

Research Assistant — *01/2021 - 06/2021*

- AI Research work at AIMI aiming to find lymphomas in children's full-body scan and automate Deauville score calculation.

Extrality AI

Paris, France

Deep Learning Research Intern — *04/2020 - 08/2020*

- Implemented a Graph Deep Learning algorithm to generate a mesh with +40 000 nodes. Achieved state-of-the-art performance.

McKinsey & Company

Paris, France

Data Science Summer Business Analyst — *06/2019 - 09/2019*

- Validated Machine Learning algorithm to enhance the model's predictive capability.
- Performed due diligence and financing analysis to support the acquisition of a major European player.

Education

Stanford University

Stanford, California USA

Master of Science - Statistics & Data Science — *09/2020 - 03/2022*

- Relevant coursework includes applied statistics, statistical learning, natural language processing, deep learning.
- Proficient in statistical modeling and hypothesis testing, enabling accurate assessment of model reliability and precision.
- **Skills:** Computer science, NLP, LLMs, pre-training, fine-tuning, machine learning, graph neural networks.

Ecole Polytechnique

Paris, France

Master of Science, Engineering Diploma - Applied Mathematics — *09/2017 - 03/2020*

- Theoretical foundation in AI/ML and statistical theories.
- Probability theory, linear algebra, and calculus to optimize ML algorithms, ensuring robust model performance.
- **Skills:** Mathematics, simulation, deep learning.

Projects & Scientific work

RSNA 2024

Chicago, Michigan USA

First author & Presenter — *12/2024*

- A comparative study of AI and expert radiologist performance for technical recall assessment in screening mammography.

Blog Posts & Presentation

- State-of-the-art in Computer Vision: ViT, CNNs and Beyond.
- Masked auto-encoders are not that strong of learners.