

# Hugo Vergnes

AI RESEARCH SCIENTIST · MACHINE LEARNING ENGINEER

1635 Marina Ct, San Mateo, CA 94403, USA

+1 (650)-799-2974 | [hugo.vergnes@gmail.com](mailto:hugo.vergnes@gmail.com) | [hugovergnes.github.io](https://hugovergnes.github.io) | [hugovergnes](#) | [Hugo Vergnes](#)

## Summary

Research Scientist with **4+ years of experience** training and deploying scalable AI systems. Expertise in developing end-to-end machine learning pipelines, building robust models, and integrating AI solutions into production environments. Adept at solving complex problems across domains, with a strong focus on scalability, performance optimization, and delivering results.

## Work Experience

### Whiterabbit.ai INC

Redwood City, California

AI RESEARCH SCIENTIST

06/2021 - Current

- Engineered screening exam 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.
- Created detailed validation of AI algorithms that processed over 500,000 images, confirming diagnostic accuracy for FDA submission.
- Skills:** Python, Pytorch, Computer Vision, LLMs, Distributed computing, Software development, Docker, Machine Learning, 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.
- Conducted extensive press search with client to adapt models to the market need.
- Performed due diligence and financing analysis to support the acquisition of a major European player, assessing cost structures, revenue streams, and potential synergies.

## 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, python and C++ software engineering.
- 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.
- Comprehensive understanding of optimization, regularization techniques bias-variance trade-off.
- 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.