Quentin VELARD

Paris, France

+33 7 77 03 63 39

✉ quentin.velard1@gmail.com

🔗 Quentin Velard ⦿ qvelard ⊕ velard.fr

Machine Learning Engineer with a MSc in Applied Mathematics and Data Science, specializing in computer vision. Experienced in R&D analysis and machine learning through internships at Bpifrance, RMIT University and STMiroelectronics. Hobbyist in robots, participant of Hugging Face LeRobot Hackathon.

Experience

STMicroelectronics   *Feb. 2025 – Sept. 2025*

Computer Vision Research Engineer - End-of-study Internship   Grenoble, France

- Developed a surrogate model using **Convolutional Neural Networks (CNN)** on Tensorflow to predict the effects of radiation on semiconductor components, thereby improving reliability assessments.
- Designed and implemented a UNET architecture with parameter sizes ranging from 760,000 to 100 million, integrated with diffusion models to enhance performance and scalability. This model was trained on **Nvidia H100** clusters using data preprocessed from physical description files, utilizing TensorFlow, scikit-learn, Keras, and distributed learning techniques.
- Successfully transitioned the tool from proof-of-concept to full production for FDSOI 28nm technology, and optimized inferences with **quantization.**

RMIT University Laboratory   *Feb. 2024 – Jul. 2024*

Quantum Machine Learning Intern   Melbourne, Australia

- Co-author (2024), **QCORD: Quantum Continual learning with Representation Distillation in Variational Quantum Algorithms**, under peer-reviewing for IEEE submission.
- Adapted a classical incremental learning algorithm into a quantum version within an MLOps framework on PyTorch

Bpifrance, Public Investment Bank   *Jun. 2023 – Dec. 2023*

R&D Analyst Intern   Paris, France

- Evaluated and financed digital R&D innovation projects supporting French governmental strategies (France 2030). Engaged in discussions with entrepreneurs to explore financing options within the strategic framework.

Education

MSc in Applied Mathematics, Ecole des Mines   *Sept. 2021 – Feb. 2025*

French Engineering School   Nancy, France

- **Relevant Coursework:** Optimization, Data Analysis, Machine Learning, Deep Learning, Blockchain, Time Series, Probability
- **Core Courses:** Numerical Analysis, Quantum Mechanics, Statistical Physics

MSc in Data Science, University of Lorraine   *Sept. 2024 – Feb. 2025*

Dual degree   Nancy, France

- Stochastic Processes, Reinforcement Learning, Optimization, Scalable Database and System Architecture

Bachelor of Science equivalent, CPGE lycée Pasteur   *Sept. 2018 – Sept. 2021*

Neuilly-sur-Seine, France

- Intensive years of training in Mathematics, Physics, and Chemistry for French engineering competitive exams.

Projects

Antioxidant Biomolecule Generation via GAN and Fine-tuned LLM   *Sept. 2024 – Mar. 2025*

Academic project

- Developed deep learning tools to generate novel biomolecules with antioxidant and anti-inflammatory properties. See my website to view the report

Freelance   *Sept. 2023 – present*

- Web Scraping, Web Dev (dashboard, personal website), Automation with AI (n8n), Cryptocurrency awareness

Technical Skills & Certificates

Web Development : React.js, Node.js, HTML/CSS, TypeScript
Data Science/ML stack: Python (Numpy, Pandas, Matplotlib, Qiskit, scrapy, beautiful soup, selenium), R, MATLAB, Machine Learning (PyTorch, Keras, Scikit-learn, TensorFlow, distributed training, CUDA)
Other : Docker, Netlify, Git/GitHub, Linux
Certifications : AWS AI Practionner (ongoing), S3 Bucket, Route 53, DeepLearning.AI : CNN, chatbot with LangChain

Interests

Professional Interests : Member of the Student Scientific Convention on Hydrogen, supporter of the French Nuclear Energy Society (SFEN), regularly attends conferences on cryptocurrencies, blockchain, decentralized finance, AGI, AI for industry, and general models for robotics.
Sports : marathons, swimming, trekking, and mountaineering.