SUPERPOSITIONS Ltd

Practical Quantum for Industry

Quantum Machine Learning Researcher

Remote | EU / UK / Switzerland | Full-Time

About Superpositions

Superpositions Ltd is a quantum software company that builds an ecosystem for practical quantum algorithms for industry.

The core product is Superpositions Studio - an AI-guided platform where users describe their industry problem in plain language and get a hybrid quantum-classical solution benchmarked against the classical approach, with quantum code and a research-grade PDF report. We also run hands-on enterprise PoCs on clients' data with multi-vendor QPU access. The goal: become the vendor-neutral layer where organizations determine if, when, and how quantum actually helps their specific problem.

The Opportunity

We're looking for a Quantum Machine Learning Researcher to drive the applied quantum research agenda behind our platform, identifying where quantum algorithms can solve industry problems better than classical methods, and turning that knowledge into production-ready code and intellectual property.

This is not a pure academic role. Your primary mission is **applied quantum research with a clear path to product**: you discover and validate quantum advantage for concrete industrial use cases from quantum chemistry and materials simulation to optimization and quantum ML and ensure every algorithm, benchmark, and insight feeds directly into our platform and library.

As a secondary responsibility, you're welcome to contribute to **client-facing projects** where your domain expertise can accelerate POC delivery and strengthen client relationships. Ideas on commercializing quantum software are always welcome.

Key Responsibilities

- Identify high-impact use cases across target verticals and validate quantum approaches against classical baselines
- Design, implement, and benchmark quantum and hybrid algorithms with a focus on near-term hardware feasibility
- Maintain deep fluency in the quantum hardware landscape: understand noise models, gate fidelities, connectivity constraints, and coherence times across QPU vendors
- Consolidate all research outputs: algorithms, benchmarks, datasets, insights into the platform's internal library, ensuring reproducibility and reusability
- Write clean, well-documented research code that can be handed off to the engineering team for production integration
- Publish peer-reviewed papers and file patents to build the company's IP portfolio and scientific credibility
- Stay current with the rapidly evolving quantum computing landscape and translate new developments into actionable platform improvements
- When relevant, contribute to client POC engagements, bringing domain expertise and credibility to technical discussions

Requirements

- PhD in quantum computing, quantum physics, quantum chemistry
- Deep knowledge of quantum algorithms, quantum error mitigation, tensor network methods and quantum simulation techniques
- Strong understanding of quantum hardware: noise models, gate sets, device architectures, and how hardware constraints shape algorithm design
- Proven publication track record in quantum computing
- Strong programming skills in Python; experience with quantum frameworks
- Ability to think commercially: translate research findings into product features, IP, and client value
- Strong communication skills: able to explain complex quantum concepts to both technical and non-technical audiences

Nice to Have

- Experience with quantum chemistry packages (PySCF, OpenFermion, or similar)
- Familiarity with different quantum hardware providers and modalities, including digital, analog, and photonic quantum computers
- Prior work in an industry lab or applied research role at a quantum computing company
- Experience working with enterprise clients or participating in technical sales

What We Offer

- **Research That Ships:** Every algorithm you build reaches real users through the platform, your work doesn't end at the paper, it ends at the product
- **Hardware Access:** QPU credits across multiple vendors
- **Engineering Support for Production:** A dedicated team translates your research code into production, you focus on the science, they handle the hardening
- **IP Ownership and Visibility:** Publish papers, file patents, represent the company at conferences, build your scientific reputation while building the company
- **Conference Budget:** Annual budget for conferences, workshops, and academic collaborations, stay visible in the community, bring back ideas
- **Equity Participation:** Opportunity to earn a stake in the company at an early stage
- **Competitive Compensation:** Base salary benchmarked to experience and market, plus milestone bonuses tied to research output and platform impact

How to Apply

Send your CV and a brief note explaining why you're interested in this role to:

info@superpositions.studio

Please include "Quantum Machine Learning Researcher Application" in the subject line.

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superpositions.studio
Less quantum magic, more quantum decisions.