



# $Q_{U\&}C_{O}$

### Requirements

- Master of Science in a relevant field
- Minimum 2 years of working experience in software development
- Developing and maintaining Cloud infrastructures
- Thorough knowledge of Python
- Knowledge of (low-level) scientific programming
- Interest in quantum computing concepts and libraries

### • Amsterdam 🖆 Minimum of 2 years' experience

Qu & Co wants to make the academic discipline of quantum computing relevant to companies. In this deeptech domain, the start-up is currently developing quantum-computational algorithms, software, and services to solve complex business problems for companies including Airbus and LG Electronics. The Quantum **Application Developer focuses on cloud** engineering and is motivated to develop groundbreaking quantum algorithms.



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### ABOUT

## Qu & Co

The average computer user will probably never have to deal with it, but quantum computing is rapidly gaining ground in business. This form of deep technology works according to the laws of quantum mechanics. It revolves around qubits. These qubits – just like quantum particles themselves – can be in superposition, i.e. they can be in different states at the same time. The major advantage to this is that quantum computers calculate exponentially faster than classical computers and thus solve much more difficult problems. For example-complex chemical or physical calculations, but also the encryption of privacy-sensitive data. Qu & Co is one of the leading companies in just this field.

Qu & Co was founded in 2017. The Dutch start-up develops quantum computing algorithms, software, and services that run on the very latest quantum hardware. Thanks to these solutions, enterprise researchers can run complex chemistry and multiphysics simulations at unprecedented speed on future quantum processors. Qu & Co's SaaS platform solutions contain unique and patented quantum algorithms that distribute them as back-end integrations – via interfaces – to conventional software packages. Currently, the company focuses on combinatorial optimization, machine learning, and computational chemistry. The first steps have also been taken within the domain of computational finance.

In recent years, Qu & Co has built up an impressive portfolio of customers for whom it knows how to make quantum computing relevant. For example, the start-up is working with aircraft manufacturer Airbus on the research, development, and testing of quantum computer methods for the simulation of flights. There is also a three-year research collaboration with LG Electronics for solving LG's most complex business research challenges. In addition, Qu & Co has partnerships with the largest players in quantum hardware, such as IBM, Amazon, and Microsoft, and its R&D is supported by an academic advisory board with professors in quantum machine learning and quantum chemistry.

Qu & Co's solutions are revolutionary and are becoming more and more popular. This requires even more computing power. In the form of Quantum Application Developers, that is.







### **Quantum Application Developer**

The Quantum Application Developer stands at the basis of applied research in quantum simulation. For this, they use their excellent skills in Python development and cloud engineering. Thorough knowledge of quantum computing is not strictly necessary. Thanks to their extensive training and close cooperation with Mario Dagrada, VP of Quantum Software, the Quantum Application Developer has the opportunity to specialize in this.

Qu & Co's software runs in the cloud. The Quantum Application Developer will initially focus on keeping all quantum platform products operational and on developing them futher. Part of this is done to revise, to both make scalable and cost-effective. This goes for the entire database and associated applications. This part of the role occupies some 30 percent of their time.

Qu & Co regularly receives requests for access to various functionalities in the internal libraries. The Quantum Application Developer takes care of the

interaction by building APIs to unlock these libraries. They design and develop APIs and integrate these with the quantum block providers. This is not all, however, as in time this role may shift towards building quantum simulations that run on top of the quantum platform.

The Quantum Application Developer works in all the different domains in which Qu & Co is active and therefore interacts with many different stakeholders. The strong communication skills that they apply to this are also very useful within a small team of five colleagues. Due to the increasing number of projects, this team will expand in the near future. When it comes to this team, the Quantum Application Developer will act as a true imparter of knowledge and teacher for new team members.

All in all, this is the perfect time to join this dynamic start-up. In addition to working on various engineering and development projects, learning a great deal about quantum computing, and sharing knowledge of codes, the Quantum Application Developer can also expect to be given more responsibility.





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