



**BHADALE GROUP OF COMPANIES
- IT AND REAL ESTATE**



Aug 01 2021

Quantum ML Industrial Solutions Catalogue

Bhadale IT Pvt. Ltd

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Bhadale Group of Companies

Bhadale Group of Companies consists of:

1. **Bhadale IT Pvt. Ltd** is an IT and Computer Engineering subsidiary company

This division provides consultation in areas of cutting edge technologies, research outsourcing, and software consultation related to data center and related engineering practices

2. **Bhadale Engineering Pvt. Ltd** is a multi-engineering subsidiary company

Various divisions under this group provide design, & development of various IT and Engineering programs.

Bhadale Group has aggressive programs in place to serve the niche market. Below is related to Hybrid cloud Services

Bhadale Group IT Division, Research Services department

Below are few of our service offerings:

Quantum ML Industrial Solutions: We offer optimized end-to-end solutions that enable better integrated quantum cloud systems, for real time responses and handling mission critical problems

1. Healthcare
2. Finance
3. Cybersecurity
4. Blockchain and cryptocurrencies
5. Applied Artificial Intelligence
6. Logistics
7. Commercial Data Analytics
8. Commercial Pattern Matching
9. Manufacturing and industrial design
10. Resource management
11. Aviation
12. Agriculture
13. National security

Details of the above are put in the table below

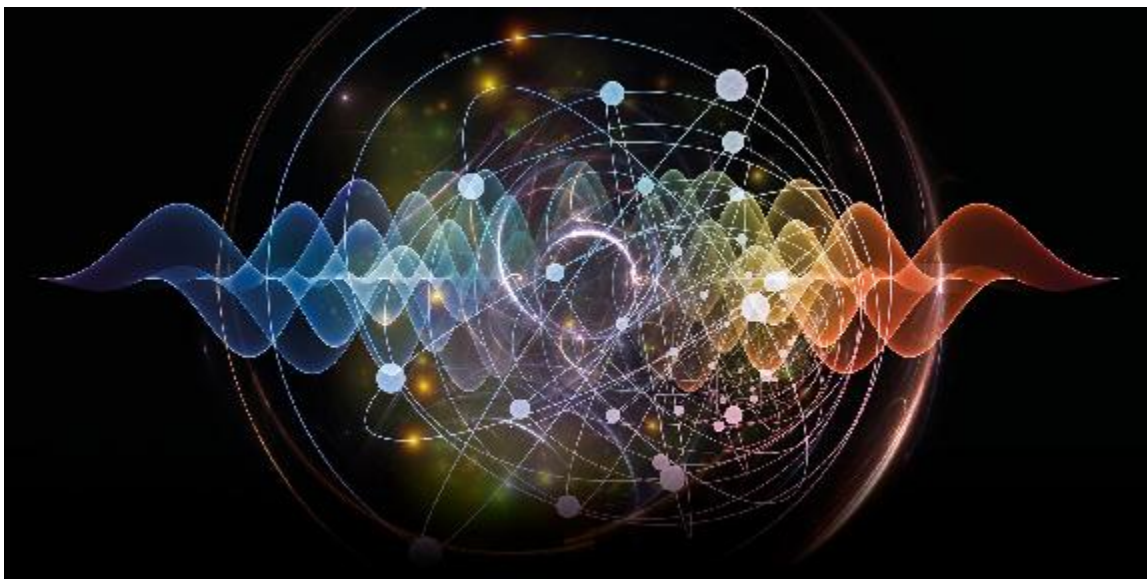


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We have a large set of subcategories; few are mentioned below with details tabulated

Service No	Service Name	Key Service features
1	Healthcare	<p>We offer services for quantum computer to</p> <ol style="list-style-type: none">1. simulate a chemical reactions, which could help speed up drug discovery efforts2. to help predict how proteins will fold in the body(protein folding helps in designing powerful protein-based medicines / therapeutics easier)3. personalized medicine by allowing faster genomic analysis to inform tailored treatment plans specific to every patient4. making genome sequencing more efficient and easier to scale
2	Finance	<p>We assist BFSI industries to</p> <ol style="list-style-type: none">1. parse through financial data more quickly, running better forecasting models, and more accurately weighing conflicting possibilities2. help solve complex optimization problems related to tasks like portfolio risk3. optimization and fraud detection, Monte Carlo simulations (a probability simulation used to understand the impact of risk and uncertainty in financial forecasting models)

		<ol style="list-style-type: none"> for algorithm trading, for better, B2C, and B2B loan lending, enabling faster insights of expected returns or defaulters faster scanning of assets for earlier detection/ warnings for issues and policy breaks/ defaults, for real time verifications from various boards, ID and avoiding/ reducing real time scams, for mining of suspicious transactions across big data
3	Cyber security	<p>We offer hacker-proof services like:</p> <ol style="list-style-type: none"> post-quantum cryptography, quantum-resistant encryption, Quantum Key distributions(QKD), and anti-hacking algorithms real-time analysis of online, point of sale transactions, ID to verify and decline purchases/ transactions securing high value assets with quantum keys analysis of big data firewall transactions, logs and audio, videos of various cameras and point of reporting, to ensure better and faster decision making border safety, port of entry/exits and faster clearances of goods (combined with quantum block chains)
4	Blockchain and crypto currencies	<p>We offer design and migration to quantum platform, like</p> <ol style="list-style-type: none"> avoiding bit coin thefts, and real time integrity of the decentralized system Design of quantum resistant ledger systems real-time verifications before committing to distributed ledger, for fraud prevention, and security of the dependent assets and services
5	Applied Artificial Intelligence	<p>We offer AI related quantum services like:</p> <ol style="list-style-type: none"> Optimization of AI algorithms, deep learning Nets HPC parallel computing of distributed AI NN workloads for faster convergence of network, optimization of gradients, learning and feedbacks analysis of large datasets from autonomous systems, real time logs and intelligent data mining Design of quantum and hybrid algorithms that offer better performance Design of AI based product automation and resolutions to NP-Hard problems

6	Logistics	<p>We offer solutions to classical real world issues like TSP , like</p> <ol style="list-style-type: none"> 1. optimizing the traffic flow for taxis and transport vehicles 2. efficiently personalized pack parcels and optimize global delivery routes 3. easier adaption to changes(such as canceled orders or rescheduled deliveries) 4. drone dispatching with real-time monitoring and status reporting 5. speedier approvals at ports, faster inspections and lesser wait time for perishable goods and better door delivery services
7	Commercial Data Analytics	<p>We offer faster analysis of commercial data, like</p> <ol style="list-style-type: none"> 1. Quantum computing to help solve problems on a huge scale using topological analysis 2. Analysis of data warehouses, data-marts and various data types of big data sources using quantum computing 3. Data mining and pattern extraction 4. Faster generation of ERP data like payroll processing, accounting, taxes and corporate digital records management
8	Commercial Pattern Matching	<p>We offer simplified solutions to industrial business/ use case/issues patterns ,like</p> <ol style="list-style-type: none"> 1. finding patterns in business data and using these to predict future patterns 2. Inform transporters of traffic patterns/conditions in advance. 3. matching traffic patterns and predicting the behavior of a system 4. matching illegal transactions patterns 5. matching security threat patterns 6. matching abnormal health conditions 7. matching abnormal industrial processes, faults of remote stations 8. matching supply chain demands and advanced warnings
9	Manufacturing and industrial design	<p>We offer quantum merits in automation, control and monitoring of industries, like</p> <ol style="list-style-type: none"> 1. 3D manufacturing, nanodesigns and fabrication

		<ol style="list-style-type: none"> error detections in chip level with millions of transistors robotics control design training and cobots NLP communications analysis of stress strains in structures and life time/life cycle predictions parameterized engine optimizations supply chain optimizations real time analysis, fault detections in consumer goods fast food and other products to ensure better health quality and prevention of infections
10	Resource management	<p>We offer Govt and agencies in sustainment of achievable goals, like</p> <ol style="list-style-type: none"> demand, supply, scoring , ranking of true resource value, and non performing assets base pensions / living wage management for the disqualified/ under qualified/ weaker sections non merit biases, ruling out biases related to skills vs. merit to perform a work, and avoiding red taping neutral bench for hiring and disqualifications of all appointments/layoffs ruling out misuse of authority and number games
11	Aviation	<p>We assist the aeronautical industry, like</p> <ol style="list-style-type: none"> for digital modeling and materials sciences research new materials for building better products analysis real time avionics data, mining large datasets filtering anomalies, offering early warnings avoiding of major disasters by analysis flight path parameters (external, internal and any dependents)
12	Agriculture	<p>We offer farmers/ agro product manufactures with advanced solutions, like</p> <ol style="list-style-type: none"> ability to produce ammonia (or a substitute) more efficiently

		<ol style="list-style-type: none"> 2. real time analysis of soil samples and images and offering precise farming kit 3. identify the best catalytic combinations for various fertilizers for personalized recommendations to individual farmers 4. molecular analysis of nitrogenase and similar low cost nitrogen/ other gas generators 5. analysis of massive land records, soil samples for risk factors, and identification of under utilization of unused / potential growth of crops/ for best returns
13	National security	<p>We offer assistance to national agencies, like</p> <ol style="list-style-type: none"> 1. Ethical Intelligent spying 2. running battlefield simulations 3. designing better materials for military vehicles 4. quantum arms race 5. real time analysis of national intelligence records, reports, and crimes 6. advanced warnings for military movements, simulations and forecasting of consequences

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