

Introduction

Disruptive innovative solutions [1], [2] possible using Applied Research (AR), agile management, crypto-agility, blend of right technologies like QAI, QML, QAGI, QASI, with unique homemade solutions that meet the individual needs of our clients. Keeping away technology jargons, business first, security first, confidential, availability and integrity first

We, at Bhadale IT make it possible for our clients to engage systematically, overlay on existing assets or develop new assets that meet their short and long term goals with the best quality, right set of solutions with low overheads and highly safe operations.

AR offers an opportunity for us to understand the needs of the client for them to offer a competitive disruptive product or service. This allows them to retain their competition and also get a good market share and profit margins from the deals.

Few of our disruptive innovative areas are:

Quantum Innovations

1. Higher qubits at low cost production, with good logical qubits available for low noise physical qubits using suitable quantum material and error mitigation techniques, newer data, memory, computing designs
2. Higher error thresholds or immunity offered by qubits for large scale production using low cost materials and better research techniques
3. Widely accessible, open sourced Quantum algorithms that can be designed and developed and tested using common GUIs like web browsers or simple editors like VS Studio, Python editor without much installations, may be a sandbox environment with ready to use like Google Colab.
4. Open API and reusable libraries across multi cloud multi platforms may be a standard
5. Quantum Internet that is of high density (for example using QOFD multiplexing, Quantum 5G spectrum encoding), hi volume(dense compression, or deltas only) using delta data transfers using quantum entanglement , teleportation without actually sending signals, may be using a new type of transmitter and receiver design.
6. Overlay of various quantum protocols that can save energy by at least 25%, allowing for more data to be processed using same amount of energy
7. Low cost high quality Quantum security that can help safe guard quantum hacking and can be overlaid or work side by to existing classical tools

AI Innovations

1. Open sourced libraries of various types of specialties required to fulfill various industrial use cases, not mere general ones that are already available.
2. Various newer types of LLM, LVM, multi modal models that have low barriers and legalities that can be base lined for further developments, trained on a domestic laptop using distributed QAI based training

QAGI Innovations

1. Generative AI + LLM+QAI algorithms for increased speed, lesser cost to train, use various neuromorphic, genetic, low energy synapses models, using common sense and context that can remove various errors , biases.
2. Use of classical maturity for defining and developing AGI scoped models that can meet most of the human level logical reasoning, data retention, retrieval model and use of highly compressed stored data

Technology Innovations

1. Highly dense storage material for QAI data types, highly efficient high compression of newer data types, XML, JSON, meta data, low read write using classical drives, quantum search , technology for hard drive efficiency, quantum level higher dimensional indexing, transforming to 3D arrays etc, storage and retrieval using Quantum hard drives.
2. Real world and any data to be represented in suitable higher dimensions like the quantum spaces, continuous stream encoding of multiple data types with best quality, normalization and data cleaning using common sense, context and situation and ambient allowing to focus on specific data quality ,type and matched ones to current needs.
3. Extension to other IT assets and inventory that allows for rapid on boarding of existing classical to newer methods

Data Innovations

1. Newer ways other than Sql, NoSql that are good for emerging data like quantum data, AI data, non relational data , multi modal data, newer ways to represent, encode, decode data, higher order data management, use of various natural bio materials like DNA, RNA to design models mimicking nature. Newer relations and dynamic data representations, modeling, that are required by present situation, context and priority.
2. Various legacy data can be easily migrated to newer model s using low cost and high efficient methods. Use of automation, robotics and data center cloud assets possible for classical interfaces

QASI Innovations

1. These are systems that exceed human logical and computational capacities. Mere large storage and high speed may not always give desired results. The quality of data, speed and volumes can show if the system meets the capability.
2. Leveraging newer improved hardware, software, storage, we can design QASI systems that can overcome the barrier of using large cloud assets, supercomputer capacity etc. The required million FLOPS, search operations within seconds, handling real time streaming data and offline data with similar speed and accuracy can be made possible and these can be used in domestic laptops. Various ideas from nature, alien concepts, can be useful.

QASI Supercomputer Innovations

1. This is the scaling of the QASI Innovations. It will allow for centrally or distributed computing system that uses QAI, QML, block chains or any newer technologies that can help in global scale data management especially when outer space, alien interfacing and external threats like near earth objects, meteor, asteroid , space mining, Moon, Mars bases etc
2. The supercomputer can work well with Quantum and Classical systems, logical reasoning beyond human capacity, speed in seconds, data stored and retrieved in seconds like a Search engine etc
3. Used low energy devices, energy harnesses, global public resources to run distributed mini workloads etc in case of global emergencies, to meet the global causes and well –being , negotiation based on real and true evidences

References:

- [1] <https://online.hbs.edu/blog/post/4-keys-to-understanding-clayton-christensens-theory-of-disruptive-innovation>
[2] <https://www.christenseninstitute.org/theory/disruptive-innovation/>