# Year in Review 2023

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eyeTech

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# A MESSAGE FROM Mohammed



What a year! A year ago, I decided to take a new challenge and contribute to create a spin-off out of my Ph.D. dissertation, focused on crafting a commercial product backed-up by experimental science. I had a vision to entirely run and operate this medical training product by like-minded students.

My goal was very simple. Throughout the past four years of my Ph.D. period, I have spent at Qatar Foundation, I either heard about, saw, or worked on multiple research projects but always faced two main questions with building those solutions: Can these projects be applied in the wild? If so, will the projects be sustainable?

So for my research, the need for an applied dissertation with self-sustained experimental results was a must, not only for the sake of learning how to develop research-based products in a more professional way but also for the ecosystem I was in to take advantage of its talent and to make its contributions sustainable.
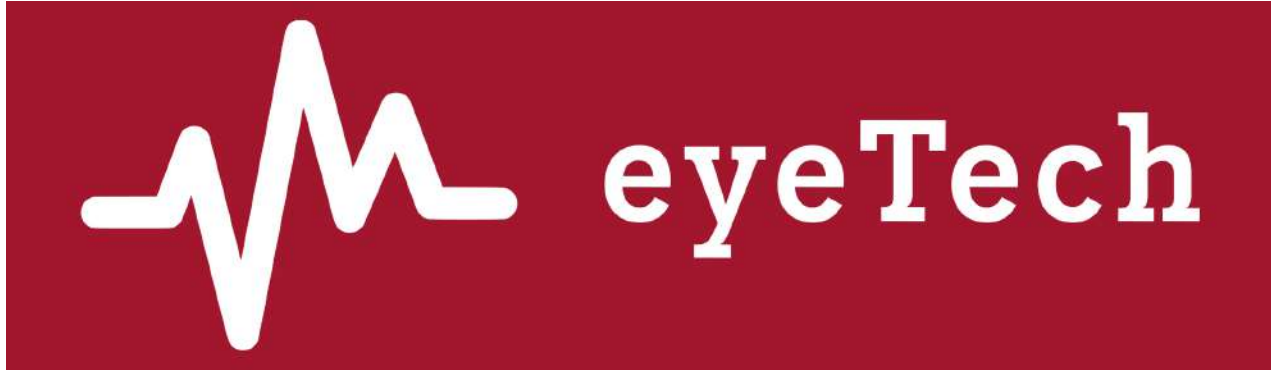
A structuring year for me meant that a lot of thoughts and efforts had to be put to find the right model for this newborn startup, eyeTech, hire the best talent across Qatar Foundation, and adopt the latest standards in terms of software development.

Thanks to our amazing team and the continuous support of the ecosystem, eyeTech has not only reached a decent level of operational efficiency, it has also been able to attract external partners with whom we had the pleasure to work with. Building on this momentum, eyeTech is now ready to embark in its new strategic plan towards becoming the leading medical training platform for medical professionals.

Mohammed Tahri Sqalli
Founder and CEO
30/12/2023

# What is eyeTech?



eyeTech is a startup project under the Digital Incubation Center that specializes in the development, deployment, and maintenance of a training solution for medical students and professionals to better interpret the Electrocardiogram (ECG). It uses eye tracking and artificial intelligence to personalize the training experience for the user. It involves students and graduates from different universities within Education City (EC) to develop a research-based production-ready project that benefits them with R&D experience along with meaningful contributions in science.

eyeTech is the natural result of several years of academic research and entrepreneurship training that the Qatar Foundation ecosystem was able to nurture. This was especially through the HBKU Innovation Center and the Qatar Science and Technology Park. Several research projects were launched by students and researchers within QF, but their sustainability and quality always posed a challenge for different stakeholders. Both the potential of research-based spin-off startups and these challenges gave birth to the idea of creating a dedicated research-based startup project named eyeTech.

On the one hand, it will be a sandbox for the growing team to learn and put into practice the research results started during the doctoral studies period. The startup project will mimic industry standards to provide the team with the necessary R&D experience allowing the eyeTech project to be self-sustained. On the other hand, this project will be able to bridge the gap between research and industry-driven solutions through software development.

eyeTech will also have its own partnerships, communication channels and processes to understand client requirements and manage deployment, and maintenance. As a result, eyeTech was founded in January 2021 as a project with the hope of becoming a startup. Since then, the project went through several initiation sprints where we have elaborated the different processes and standards that the startup eventually has to follow.

# ABOUT US
## Mission and Vision

**Mission:** At eyeTech, we provide medical professionals and students a revolutionary ECG training platform with AI and eye-tracking capabilities by customizing an adaptive and reactive training program verified by expert cardiology consultants. eyeTech reduces the time it takes to become a decent ECG interpreter from 5 to 2 years. What is unique about our solution is that we unify ECG training in a single platform.

**Vision:** Our vision is to eradicate the problems of Inacurate ECG interpretation, and lack of ECG interpretation training. eyeTech believe that the problem of an inaccurate ECG diagnosis is about lack of efficient and innovative training, prolonged period, and evolving heart arrhythmias which prevents medical practitioners from reaching their potential to an accurate ECG diagnosis and a faster medical intervention time, and ultimately, a patient-centered care.

# CORE VALUES

At eyeTech, we are dedicated to building innovative solutions that improve the way medical practitioners and students learn to interpret electrocardiograms. As a MedTech and EdTech startup, we believe in four core values that guide everything we do.

1. First and foremost, we believe in **integrity before profit**. This means that we are committed to doing the right thing, even if it may not be the most financially beneficial option. We believe that by staying true to our values, we will build a stronger and more sustainable company in the long run.

2. Second, we are committed to **putting the patient at the center of everything we develop**. We understand that our technology is ultimately intended to improve patient outcomes, and we strive to ensure that this is always the primary focus of our work.

3. Third, we are dedicated to **using technology that is backed up by academic and scientific research**. We
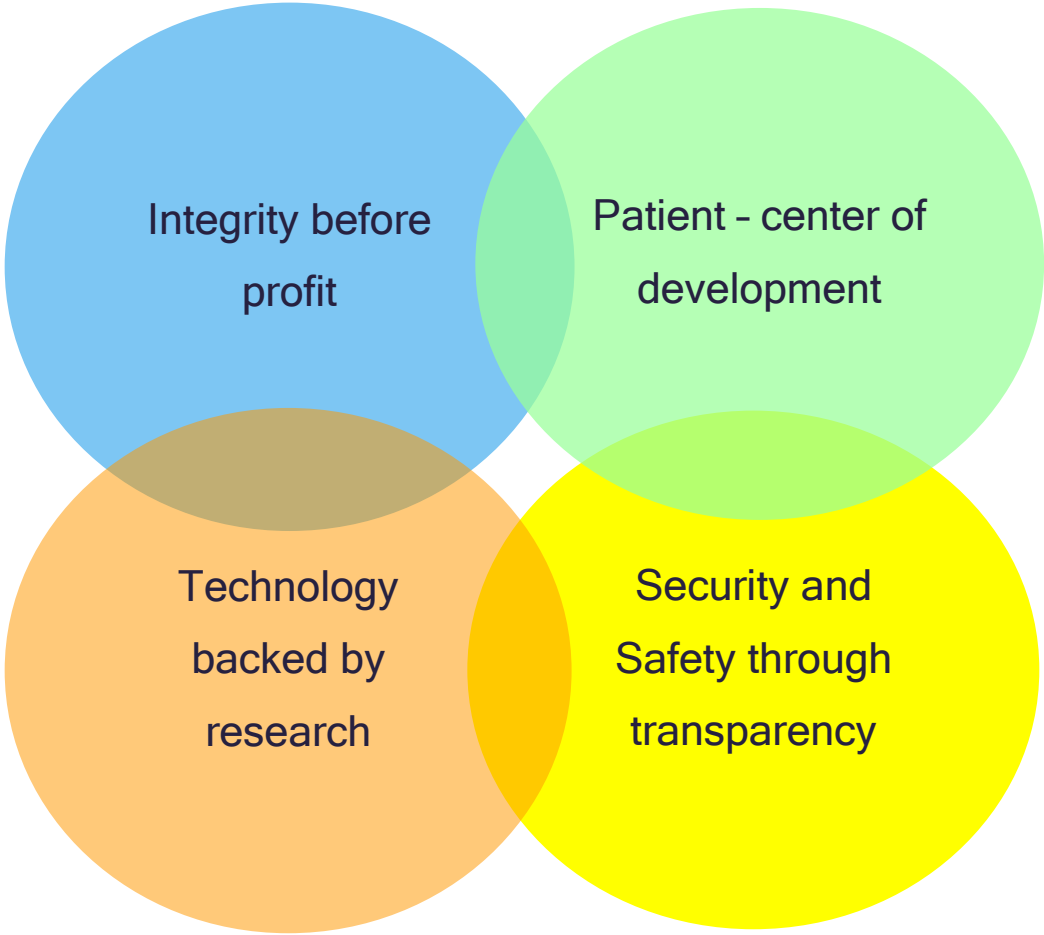
believe that by staying current on the latest research and innovations, we can develop solutions that are truly cutting-edge and effective.

4. Finally, we are committed to **safety and security through transparency**. We understand that our technology deals with sensitive medical data, and we take this responsibility very seriously. We strive to be transparent about our data handling practices and to ensure that all information is kept secure and private.

At eyeTech, we are committed to using the latest advancements in artificial intelligence and eye tracking technology to improve the way medical practitioners and students learn to interpret electrocardiograms. By staying true to our core values of integrity, patient-centeredness, science-backed technology and transparency, we are confident that we can make a real impact in the medical field

# Core Values

Integrity before profit

Patient - center of development

Technology backed by research

Security and Safety through transparency

# Key Milestones

## 2023

**January** — Winning and Completing the HBKU Innovation Fund.

## Spring 2023

**March** — Finalist at the Qatar Science & Technology Park XLR8 Accelerator Program
Winner of the Qatar Business Incubation Center (QBIC) Hackathon 2022 – Digital Transformation Track.

**April** — People's Choice Award at New York University Abu Dhabi (NYUAD) Hackathon for Social Good.

## Fall/Winter 2023

**September** — Finalist at Stars of Science TV show.

**October** — Innovations Sparks Competition Winner at the World Innovation Summit for Health.

**November** — Lean Startup Program Wave 16 Winner by QBIC (Investment offer of 250,000QAR not accepted)

**December** — IdeaCamp Startup Winner by the Qatar's Ministry of Information of Computing Technology's Digital Incubation Center (Investment grant of 150,000QAR accepted)

# eyeTech in Numbers

**5**

Team members

**184k QAR**

Funding (grant)

**2**

National TV Appearances

**2**

National Research Partners

**67**

On ground experiments

**1**

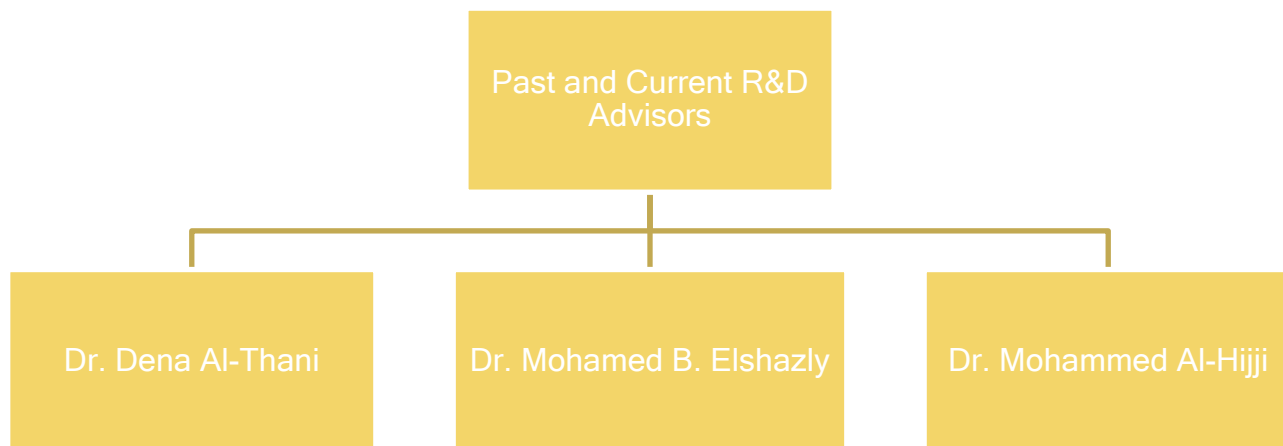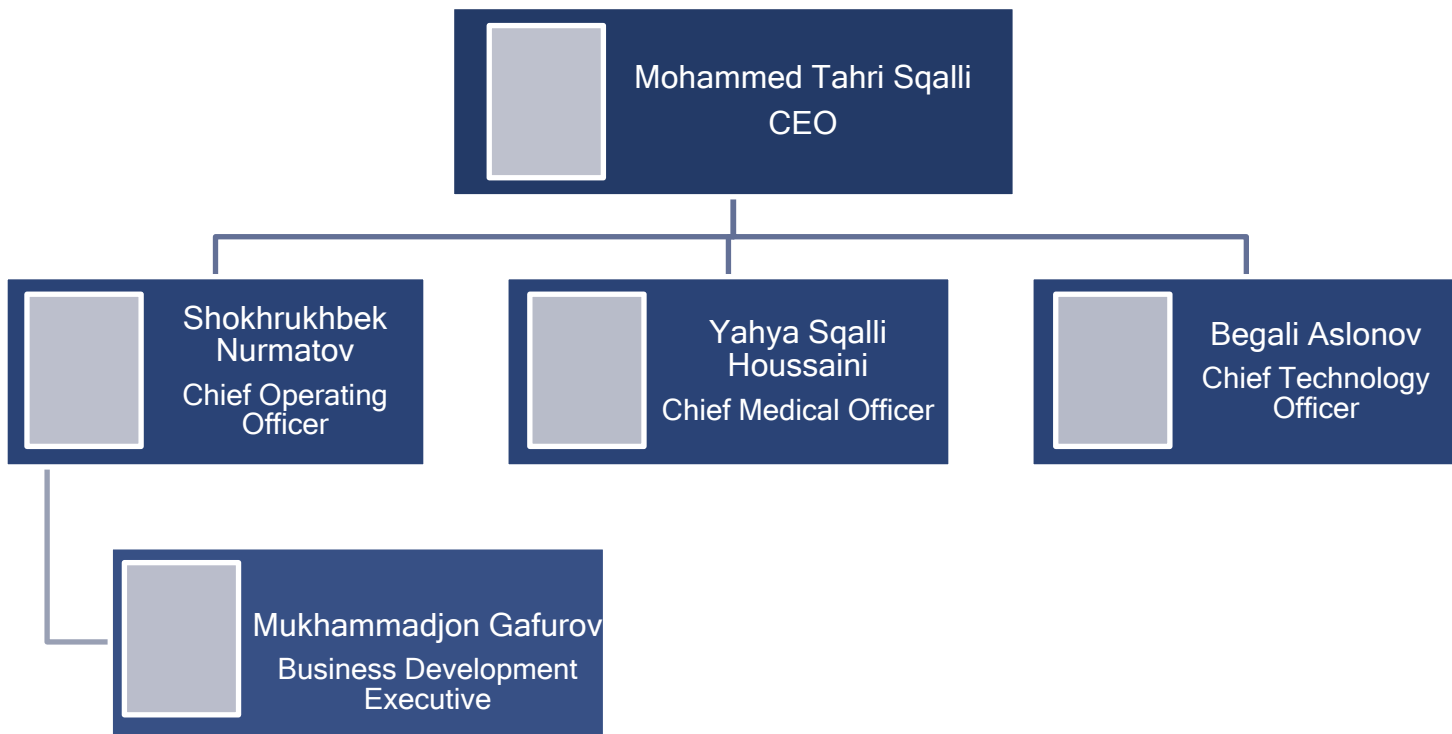Patent Application
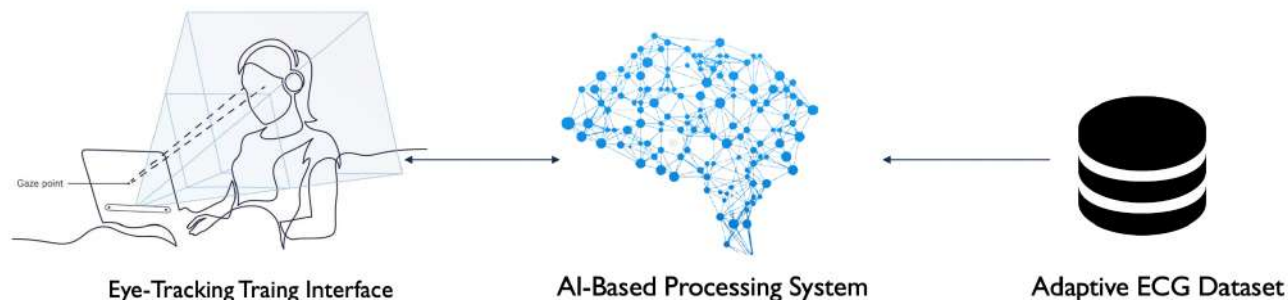
**4**

Graduated Accelerators

**10+**

Academic Publications

# Organizational Structure

In its efforts to promote favorable work among all team members at eyeTech, we have been working for the past year on an adequate organizational structure that allows us to reach our milestones and to communicate efficiently between team members. All our team members are involved with eyeTech on a part-time basis.

Mohammed Tahri Sqalli
CEO

Shokhrukhbek Nurmatov
Chief Operating Officer

Yahya Sqalli Houssaini
Chief Medical Officer

Begali Aslonov
Chief Technology Officer

Mukhammadjon Gafurov
Business Development Executive

Past and Current R&D Advisors

Dr. Dena Al-Thani

Dr. Mohamed B. Elshazly

Dr. Mohammed Al-Hijji

# EYETECH
## Product Overview



Eye-Tracking Traing Interface     AI-Based Processing System     Adaptive ECG Dataset

We are developing an artificial intelligence-based educational platform that learns and adapts to the medical practitioner interpreting an Electrocardiogram (ECG). Figure 1 depicts the structure of the proposed platform. The platform uses eye tracking technology to record the interpreters' eye movements while they observe the ECG before giving a diagnosis. The eye tracking data serves as an input to the machine learning algorithm that analyses the interpreters' eye movements while they perform the task of interpretation. Using the analyzed data, the system provides live feedback to guide the interpreters to correctly interpret the ECG being observed. The development of the training system is done in three phases. Each phase represents a sub-system working in synergy with the other two subsystems in order to provide an adaptive coaching platform for medical practitioners who interpret ECGs in their daily practice.

### Conclusion: Challenges and Opportunities for the future

For the past year, eyeTech managed to build upon original research and software development to come up with a marketable solution structure able to grow and achieve more.

As a team, we took the best practices of managing part-time the startup environment and merged it with industry standards of software development and tech innovation. These efforts resulted in an independent startup project, fully managed by students across different academic levels, with stable and efficient project management processes and development cycle.

The eyeTech project in the past year has reached the stage of a Minimum Viable Porduct (MVP) proving its potential commercialization not only in Medical Academia, but also in the Cardiology department of hospitals. eyeTech is now ready to leverage its core values and strengths to benefit a larger segment of the medical community through including additional research partners like medical schools and hospitals beyond experimental design.

As a team, we believe that eyeTech will become the leading personalized training platform, whether in the medical field or beyond, that uses the latest eye-tracking technologies and artificial intelligence to provide quality training. This will allow our users at training centers and universities to experience personalized training that allows for interaction and customization

The eyeTech project will also provide the founding and forthcoming joiners with an entrepreneurial experience as well as an early encounter with how a software development unit is managed to further innovate and increase the chances of software development success.

With this, the support of the Qatari entrepreneurial ecosystem will prove that eyeTech is a success story in the region that leverages the support and mentorship provided. In order to achieve that, eyeTech prepared a strategic plan of 2 years for 2023-2025 that aligns with Qatar's National Strategy while building upon our strengths.