PREPARED BY THI BICH THAO BUI

SEEFAR INTERNSHIP REPORT

QUANTITAS

Actioning Data. Making Decisions

THE COMPANY

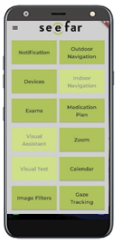
Quantitas is an information-driven start-up company based in Venezia, Italy. The company was founded in 2014 and is located inside the VEGA Park – Venice gateway for Science and Technology. The focus concept of the firm is on data science, where they build their team with data scientists, engineers, and IT technicians specialized in AI. They provide services in business analytic and data analysis. The company also involves in numerous research projects at the national level as well as European level.

They offer service in:

1. Data analysis
2. Analytics development
3. Visual analytics and info design
4. Visual survey and gamification
5. Research projects and data communities
6. Training and competence building

"Qualsiasi tecnologia sufficientemente avanzata è indistinguibile dalla magia"

SEE FAR - SMART GALSSES PROJECT



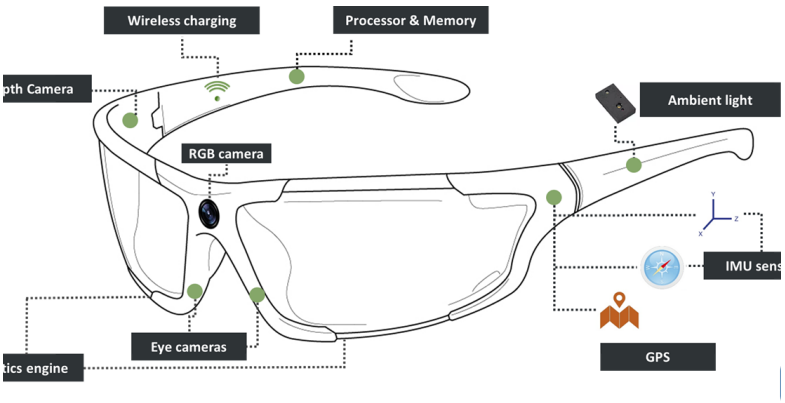
Aging raised challenges of health, safety, and productivity at work. This is one of the real challenges for the EU when the employment rate for older human resources increases recently, especially among women, highlighted in the European Commission's Joint Employment Report 2017. The impairment in seeing also has severe effects on the quality of life, increasing risk factors for social withdrawal and mental condition. Moreover, visual impairment is a crucial chronic condition related to aging; belief threatens the workforce's capacity.

However, the aging workforce is a valuable source of experience and knowledge. The employers and the EU must raise their focus on improving the workforce needs and support them through suitable accommodation to reduce risk at the workplace or avoid increasing loss of productivity due to vision problems.

See Far project goals

1. Evaluate the impact of visual impairment in the aging population.
2. Perform social-economic analysis for the impact of See Far on the public health system.
3. Connect technology, science, and engineering to Social Sciences and Humanities disciplines by empowering the aging population through solutions.

In detail, the project develop a **See Far smart glass** which personalizes to the need of the users and optimize their view. The smart glasses include 3 modules: the **personalized visual assistant,** the **personalized visual recommendation service,** and the **embedded navigation system.** The necessary visual information will be displayed by the **display lenses.**



The **ophthalmic camera** will capture the retinal image. **See Far mobile application** consists of the mean to analyze retinal images and detect the type and stage of vision impairment. The impairments detection and monitoring service will help to monitor and predict the development of the diseases.

INTERN RESPONSIBILITIES

The objectives is to analyze the impact of the project, focusing on its cost-effectiveness analysis.

According to the first meeting with my supervisor - Mr. Nicola Ianuale, I would develop methodologies to estimate the project's cost-effectiveness from the societal perspective; the main focus is on aging employees from 40 to 64 years old. The result of the research would be discussed from time to time, every 7 to 10 days online through Meet.google.com. The schedule was communicated through emails. My focus tasks were as follows:

01. Literature review

The current literatures were reviewed to select the suitable method and information regarding the objective of the internship. Both supervisor and supervisee would contribute to make up the list of research papers.

02. Data collection

Supervisee would collect data regards variable needed for the models from valid, reliable sources such as Eurostat, the World Bank, Ilostat, IMF ...

03. Develop methodologies

The supervisee would develop models to estimate the financial impact and health benefits from the See Far solution.

04. Estimate cost effectiveness

The supervisee would estimate the productivity loss of employed people in the age group 40-64 in 27 Schengen countries in 2020. The estimation was done in excel.

WHAT I HAVE LEARNT

I GROW MYSELF MILES FURTHER

"QUALSIASI TECNOLOGIA SUFFICIENTEMENTE AVANZATA È INDISTINGUIBILE DALLA MAGIA"

By developing the models for productivity loss caused by vision impairment on the target group, for the first time, I learned how the vision issue could cause a big problem to society. The current study Bourne et al. (2021) contributed to the WHO initiative, VISION 2020, estimated 596.2 million people globally have distance vision impairment (VI). 43.3 million people are blind (95% UI 37·6–48·4), and 295 million live with moderate and severe vision impairment (Bourne et al., 2021). In Europe, the result showed an estimation of 33.097 million people having vision impairment, of which 30.45 million people had MSVI, and 2.647 million under blindness. Also, due to problem with their eyes, employees' productivity at work tend to decrease, from both absenteeism and presenteeism. It causes a significant loss financially to society.

Besides that, the internship has helped me improve my excel skills much better. I have background in anesthesiology. I performed clinical works most of the time. Even though I had good basic skills to carry the computerized work at the hospital back in the time, I have never really worked in a large datasheet. By the end of this internship, I can comfortably work with advanced skills like excel worksheets, VLOOKUP, IF and multiple IF functions, SUMIFS, COUNTIFS, …

Furthermore, the fact that the founders have recognized the problem in our society and try to tackle it with the power of science and innovation has me awe. They inspired me by the meaning of the project to the future society. With the smart glass and the application in their phone, the users could have access to ophthalmology care/assistance wherever they are. Seeing a group of scientists, researchers, and engineers working together taught me that an innovative idea can come true with a team.

MY THOUGHTS AND CONCLUSIONN

I have enjoyed my time being an intern with Mr. Nicola Ianuale and the See Far project. The training helped me grow both skills and inspiration, also beneficial from the insights of the market. Although there are some disadvantages of working from home, the advantages were more favorable.

The internship with Quantitas. Srl and See Far Project has come to an end after three months of work. The time of the internship was longer than the schedule in the formative agreement with the school. We were updating one new model in the end-stage of the training, causing this prolong. However, the result came out satisfied when we had in total four models with value estimation.
The internship was my first time working in an international environment; the experience helped me gain confidence and inspiration to start my new career journey. I have inevitably more research skills as well as data analysis. Also, I recognize that I like to work on Health technology assessments where related to technology in healthcare or innovation in general. The idea of being a bridge between health, science, and the economy keeps me up to work.
On the other hand, there are also some drawbacks that I want to point out. The internship was taken remotely, causing some difficulties, including lack of office environment, less exposure to company culture, and technology glitches. Even though working from home gave me flexibility in terms of time and avoiding commune time to the office, I received less supervision than on-site. The communication between supervisor and supervisee depends on the time receiving and replying to emails. Besides interacting with my supervisor, I did not have any chance to get to know other colleagues in the firm. Moreover, a bad internet connection sometimes interrupts the meetings or is less likely to deliver the right message.

Overall, the internship was ended with favorable results for both sides. I have grown miles further than me at the beginning of the course, both technically and mentally. I am glad that my work during the internship could partially contribute to the success of See Far project.