Francesco Ranellucci

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Experience

Software Engineer intern Jul. 2022 – Nov. 2022

National Institute of Metrological Research – INRiM *Turin, Italy*

- Developed a user-friendly GUI software for Microsoft Windows using C#, tailored for interfacing with a Gage PCI Digitizer utilized in an advanced non-linear optical microscope setup.
- Implemented multi-threaded programming to optimize software performance, enabling concurrent processing of data from all 8 channels of the acquisition card. This ensured seamless real-time data acquisition and analysis, even during extended time-lapse experiments.
- Developed software features for generating high-quality images of analyzed cells and graphical representations, crucial for aiding researchers in analyzing experimental data.
- Integrated socket communication for seamless interaction between the software and the digitizer device.
- Leveraged C# libraries such as Bitmap, Libtiff, Net, and System to enhance functionality and streamline development
- Utilized Git for version control to ensure collaboration and manage software revisions effectively.

Education

Polytechnic University of Turin Turin, Italy

Bachelor of Science in Computer Engineering *Oct. 2019 – Ongoing*

Liceo Scientifico Statale Galileo Ferraris Turin, Italy

Diploma of Scientific High School *Sep. 2014 – Jul. 2019*

Big Sky High School Missoula, MT, US

High School Exchange Program *Aug. 2017 – Jun. 2018*

Projects

Fantacitorio bot | *Python, Telegram API, Snscrape, Git*

- Developed a Telegram bot using the Telegram API to create a game manager inspired by fantasy football. The bot is capable of live scraping a website updated during a TV show and computing points and rankings for teams. Users can interact with the bot via a Telegram group chat involving all players.

Number Genarator Android App | *Java, Android studio*

- Built an Android application using Java to enhance my skills in both the environment and the language. The primary objective was to create a tool capable of generating random numbers within a range specified by the user.

Average deposit & bank statement | *Python*

- Crafted an average deposit and bank statement calculator that generates a paper document containing all data and information. The calculator operates based on a *.csv file (generic MS Excel), provided by the user as input.

Team Work Experience

European BEST Engineering Competition - EBEC 2019, 2020

EBEC Competition, (2019 Team Design, 2020 Case Study) *Turin, Italy*

- Participated in the European BEST Engineering Competition (EBEC), a three-level, team-based engineering competition held across 19 countries. Contributed to both case study and team design categories during participations

Investment Challenge 2020

Reply Investment Challenge *Turin, Italy*

- Engaged in BG Saxo investment competitions, involving real market dynamics and educational content on diverse asset classes and investment strategies by Reply and MIP, aimed at gaining valuable insights

Giornata della Scienza 2017, 2018, 2019

Turin science fair, (2017 Physics Team work, 2018 Math Team work, 2019 Electronics Team work) *Turin, Italy*

Clean air and healthy homes symposium 2018

Big Sky High School, University of Montana, Montana Department of Environmental Quality *Missoula, MT, US*

Technical Skills

Languages: C, C#, Java, Matlab, Python, Assembly, Shell, SQL, Lua, Latex, Markdown, HTML, CSS.
Developer Tools: Linux, Command Line, Git, GitHub, GitLab, Svn, Raspberry Pi, Arduino, OOP, Algorithms and Data Structures, Vim, VSCode, Visual Studio, Eclipse, Intellij.