Francesco Marini

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About

I'm a senior software engineer, focusing on Apple platforms and in particular iOS/iPadOS development, with a background in computer science and physics, and an interest in graphics and data analysis.
Highly motivated and problem solving oriented, I find having to tackle new problems and coming up with clever and elegant solutions exciting; I have a very diverse working experience both in academia and private companies, facing clients, and working alone and in team to solve a very different array of problems.
I'm always trying to find new challenges to be able to apply all the different knowledge I gained on my previous jobs, and to share this knowledge with the people I work with, and particularly the ones I have the pleasure to mentor.

Employment History

Tribute Brand Inc., remote - 2022 – 2024 — Senior iOS Developer

Fashion and digital clothing company

- Completely rewrote the company iOS app with the latest technologies, turning it into a full SwiftUI, iOS 16+ one
- Interfaced with Unity developers to integrate the AR camera in the app
- Worked with backend developers to help define and implement GraphQL APIs
- Turned Figma designs into fully fledged SwiftUI components and screens

Open Gate S.r.l., Gorgonzola, Italy - 2017 – 2021 — Senior Software Engineer / iOS Developer

Software development agency

- Designed and implemented 5 apps, 3 native in Swift and 2 in React Native
- Maintained and added features to 4 apps, 1 in Objective-C, 2 in Swift and 1 in React Native
- Worked with clients to review requirements, and from them designed UI and UX
- Mentored junior developers and assisted senior ones

Pietro Fiorentini S.p.a, Milan, Italy - 2011 – 2017 — Principal R&D Engineer

Oil&Gas solutions company, R&D Department

- Worked on the development of a spectroscopic downhole fluid composition analyzer and of a spectroscopic infrared water–cut measurement system
- Performed laboratory duties, data acquisition and analysis
- Coordinated with several contractor companies in UK, France, Switzerland and Germany
- Designed and wrote the software for a gas quality analyzer based on an ARM-based embedded Linux controller

Department of Physics, University of Milan, Italy - 1999 - 2008 — Researcher
FOLDLESS S.r.l., Monza, Italy - 2009 – 2011

Prof. R.A. Broglia's Nuclear Physics and Protein Physics research group and later on University spin-off founded by Prof. R.A. Broglia in collaboration with the University of Milan and Rottapharm/Madaus

- Designed, configured and installed two linux computational clusters (2001 and 2004)
- Wrote a proteins visualization program used by the group
- Wrote various simulation and analysis programs and optimized existing ones
- Performed research on the modeling of a stock market, self–avoiding random walks on fractal surfaces, and large percolation clusters, under the supervision of Dr. H.E. Roman (now at University of Milano–Bicocca)
- Performed research on protein folding, its energetics, and non–conventional inhibition with the aim of creating a new class of drugs for a range of retroviruses such as HIV and HCV, using biophysics and bioinformatics tools and methods
- Authored and coauthored 4 papers published in peer reviewed scientific journals, 1 published on ArXiv, and 2 more published in conference proceedings

Skills

- Mother tongue Italian
- Fluent in English
- Basic Spanish

- Teamwork, communication, adaptability, creativity, willingness to learn, critical thinking, mentoring, problem–solving
- Requirements collection, wireframing, prototyping, design
- Data analysis, data visualization
- iOS development, SwiftUI, UIKit, integration with 3rd party libraries, Xcode, git, git flow, GraphQL
- Swift, C, Javascript, Python, SQL, HTML, CSS, Objective-C, Bash, Zsh
- Adobe Photoshop and Illustrator, Affinity Photo, Designer and Publisher, Figma

Interests

I like photography in general, and nature, landscape, and street, in particular. Playing guitar and cooking are things that I like a lot, and the same is true for practicing karate. I enjoy trekking, finding a long walk in the mountains a gratifying and relaxing experience, both alone and in company. I like to travel, see new places and meet different people and cultures. I am moreover interested in nature conservation and environmental issues, and I think that people should be much more careful in their actions and activities. I love reading and I have an interest in graphic, design, and architecture, enjoying both a good sci-fi book as well as the study of color theory.

Education

University of Milan, Italy - B.Sc. in Computer Science, 2007

Final thesis: "*Protein Folding: Free Energy Surfaces from Monte Carlo and Metadynamics Simulations*"

Publications

Potel, G., Barranco, F., Marini, F., Idini, A., Vigezzi, E., and Broglia, R. A. (2011). *Calculation of the Transition from Pairing Vibrational to Pairing Rotational Regimes between Magic Nuclei ^{100}Sn and ^{132}Sn via Two-Nucleon Transfer Reactions*. Physical Review Letters, **107**(9):092501

Marini, F., Camilloni, C., Provasi, D., Tiana, G., and Broglia, R. A. (2008). *Metadynamic sampling of the free energy landscapes of proteins coupled with a Monte Carlo algorithm*. Gene, **422**(1–2):37–40

Marini, F., Ordemann, A., Porto, M., and Roman, H.E. (2006). *Violation of the des Cloizeaux relation for self–avoiding walks on Sierpinski square lattices*. Phys. Rev. E, **74**(5):051102

Roman, H.E., Albergante, M., Colombo, M., Croccolo, F., Marini, F., and Riccardi, C. (2006). *Modeling cross correlations within a many–assets market*. Phys. Rev. E, **73**(3):036129

Proceedings

Broglia, R.A., Baroni, S., Barranco, F., Bortignon, P.F., Potel, G., Pastore, A., Vigezzi, E., and Marini, F. (2007). *Induced pairing interaction in nuclei and in neutron stars*, in Proceedings of the 41st Zakopane Conference on Nuclear Physics, Acta Physica Polonica **B, 38** (2007), 1129-1138

Broglia, R.A., Tiana, G., Bortignon, P.F., Colò, G., Provasi, D., Marini, F., Vigezzi, E. and Barranco, F. (2006). *From nuclei to proteins: interdisciplinary research in finite many–body physics*, in Proceedings of the Meeting "Highlights in Physics 2005", Department of Physics, University of Milan, Italy

Conferences

Max Planck Institute for the Physics of Complex Systems Dresden, "*Physical and Chemical Foundations of Bioinformatics Methods*", 18th-22nd June 2007, Dresden, Germany

International School of Physics "E. Fermi", CLXV Course, "*Protein Folding and Drug Design*", 4th-14th July 2006, Varenna, Como Lake, Italy