

# CURRICULUM VITAE OF FRANCESCO PIO MARINO

## October 2025

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### Personal Data

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#### CONTACTS

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### Education

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<b>Ph.D. in Computer Science</b> University of Catania, Catania, Italy	08 2023 — Present XXXIX Cycle
<b>Ph.D. in Computer Science</b> University of Rouen, Rouen, France	08 2023 — Present
<b>Erasums</b> Kaunas Technology University, Kauans, Lithuania	09 2021 — 02 2022
<b>Master Degree in Computer Science</b> University of Catania, Catania, Italy	09 2020 — 07 2022

### Visiting

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<b>Universidade Estadual de Campinas (BR)</b> for scientific collaboration with Prof. Guilherme P. Telles.	02 2026 — 03 2026
<b>University of Yamanashi (JP)</b> for scientific collaboration with Prof. Dominik Köppl.	09 2025 — 12 2025

### Scientific and Research Activity

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RESEARCH INTERESTS	Algorithms on strings, combinatorial algorithms, automata theory, exact and approximate pattern matching, data compression, text indexing, string sampling, sorting algorithms, quantum algorithms
INTERNATIONAL CONFERENCES AS SPEAKER	<ul style="list-style-type: none"><li>- <i>Prague Stringology Conference 2020 (PSC20)</i> 31 August - 2 Septembre 2020, Prague, Czech Republic.</li><li>- <i>Workshop on Compression, Text and Algorithms (WCTA 2020)</i> 16 October 2020, Online.</li><li>- <i>Prague Stringology Conference 2021 (PSC20)</i> 30-31 August 2021, Prague, Czech Republic.</li><li>- <i>Italian Conference on Theoretical Computer Science 2021.</i> 13-15 September 2021, Bologna, Italy.</li><li>- <i>Quantum Search and Information Retrieval (QUASAR24)</i> 3 June 2024, Pisa, Italy.</li><li>- <i>12th International Conference on Fun with Algorithms (FUN24)</i> 4-8 June 2024, Island of La Maddalena, Italy.</li><li>- <i>Future Conference Technology (FTC24)</i> 14-15 November 2024, London, United Kingdom.</li><li>- <i>The 29th London Stringology Days &amp; London Algorithmic Workshop (LSD &amp; LAW for Costas)</i> 5 February 2025, London, United Kingdom</li><li>- <i>Sequences in London</i>, 6-7 February 2025, London, United Kingdom</li><li>- <i>2nd Workshop on Quantum Algorithms, Software and Applied Research, QUASAR25</i> 20 July 2025, South Bend, IN - USA.</li></ul>

INTERNATIONAL JOURNALS (4 PAPERS)	<ol style="list-style-type: none"> <li>1. Simone Faro, Francesco Pio Marino and Arianna Pavone. Efficient Online String Matching Based on Characters Distance Text Sampling. <i>Algorithmica</i>, Springer, 2020. doi:10.1007/s00453-020-00732-4</li> <li>2. Simone Faro, Francesco Pio Marino and Arianna Pavone. Improved characters distance sampling for online and offline text searching. <i>Theoretical Computer Science</i>, Volume 946, 2023. doi:<a href="https://doi.org/10.1016/j.tcs.2022.12.034">https://doi.org/10.1016/j.tcs.2022.12.034</a></li> <li>3. Simone Faro, Francesco Pio Marino and Gabriele Messina. Extending Qutes: A Practical High-Level Language for Quantum Computing. <i>The Computer Journal</i>, doi: <a href="https://doi.org/10.1093/comjnl/bxaf133">https://doi.org/10.1093/comjnl/bxaf133</a></li> <li>4. Simone Faro, Thierry Lecroq and Francesco Pio Marino. Optimal Character Distance Sampling for Exact String Matching through Set Cover Reformulation. <i>IEEE Access</i> 2026.</li> </ol>
INTERNATIONAL CONFERENCES (14 PAPERS)	<ol style="list-style-type: none"> <li>5. Simone Faro and Francesco Pio Marino. Reducing Time and Space in Indexed String Matching by Characters Distance Text Sampling. <i>Proceedings of the Prague Stringology Conference 2020, PSC 2020</i></li> <li>6. Simone Faro, Francesco Pio Marino, Stefano Scafiti. Fast-Insertion-Sort: a New Family of Efficient Variants of the Insertion-Sort Algorithm. <i>Proceedings of the SOFSEM 2020 Doctoral Student Research Forum co-located with the 46th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2020)</i>, CEUR Workshop Proceedings, Vol.2568, pp. 37-48, 2020.</li> <li>7. Simone Faro, Francesco Pio Marino, Arianna Pavone and Antonio Scardace. Towards an Efficient Text Sampling Approach for Exact and Approximate Matching. <i>Proceedings of the Prague Stringology Conference 2021, PSC 2021</i>.</li> <li>8. Simone Faro, Francesco Pio Marino and Arianna Pavone. Enhancing Characters Distance Text Sampling by Condensed Alphabets. <i>Proceedings of the 22nd Italian Conference on Theoretical Computer Science, ICTCS 2021</i>.</li> <li>9. Simone Faro, Francesco Pio Marino, Andrea Moschetto, Arianna Pavone and Antonio Scardace. The Great Textual Hoax: Boosting Sampled String Matching with Fake Samples. <i>Proceedings of the 12th International Conference on Fun with Algorithms, FUN 2024</i>.</li> <li>10. Simone Faro, Francesco Pio Marino and Antonio Scardace. Practical Implementation of a Quantum String Matching Algorithm. <i>Quantum Search and Information Retrieval, QUASAR24</i>.</li> <li>11. Simone Faro, Francesco Pio Marino and Andrea Moschetto Beyond Horspool: A Comparative Analysis in Sampled Matching. <i>Proceedings of the Prague Stringology Conference 2024, PSC 2024</i>.</li> <li>12. Domenico Cantone, Claudio Caudullo, Simone Faro, Francesco Pio Marino, Arianna Pavone and Caterina Viola. Practical Quantum Combinatorial String Matching <i>Future Technologies Conference (FTC) 2024</i>.</li> <li>13. Simone Faro, Thierry Lecroq, Francesco Pio Marino, Arianna Pavone and Stefano Scafiti. Improving Sampled Matching through Character Context Sampling <i>Proceedings of the 25th Italian Conference on Theoretical Computer Science, ICTCS 2024</i>.</li> <li>14. Simone Faro, Francesco Pio Marino. Scaling Grover's Search for Large Solution Spaces. <i>ACM Symposium on High-Performance Parallel and Distributed Computing 2025, HPDC25</i>.</li> <li>15. Simone Faro, Francesco Pio Marino and Gabriele Messina. Qutes: A High-Level Quantum Programming Language for Simplified Quantum Computing. <i>ACM Symposium on High-Performance Parallel and Distributed Computing 2025, HPDC25</i>.</li> <li>16. Simone Faro, Dominik Köppl and Francesco Pio Marino. Attractor Matching: A New Paradigm for Structural String Comparison. <i>Data Compression Conference 2026 (DCC26)</i>.</li> <li>17. Simone Faro, Dominik Köppl, Thierry Lecroq and Francesco Pio Marino. Enabling FM-Index for Elastic-Degenerate Strings via a new Min/Max Wavelet Tree. <i>Data Compression Conference 2026 (DCC26)</i>.</li> <li>18. Simone Faro, Dominik Köppl, Thierry Lecroq and Francesco Pio Marino. A Bitwise Approach to SCER Matching in Indeterminate Strings . <i>Combinatorial Pattern Matching 2026 (CPM26)</i>.</li> </ol>

## REFEREE SERVICES

Reviewer for the following international journals and conferences:

- Transactions on Quantum Computing, ACM