Michele Chiari

Curriculum Vitae

✍ Politecnico di Milano, Edificio 22 – Via Golgi 42, 20133 Milano, Italy
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Education (Degree Granting)

11/2018 – 02/2022 **Information Technology**
Ph.D. cum laude
Politecnico di Milano – Milano, Italy

2016 – 2018 **Computer Science and Engineering**
Master of Science (Laurea Magistrale)
110/110 cum laude
Politecnico di Milano – Milano, Italy

2013 – 2016 **Computer Science**
Bachelor of Science (Laurea Triennale)
110/110 cum laude
University of Parma – Parma, Italy

Education (Other) and Achievements

22/09/2019 – 27/09/2019 **Heidelberg Laureate Forum**
7th Edition
Hosted by the Ruprecht Karl University of Heidelberg, Baden-Württenberg, Germany

2019 **Award for the Best Italian Master Thesis in Theoretical Computer Science**
Italian Chapter of the EATCS
Title: *Temporal Logic and Model Checking for Operator Precedence Words*

01/2016 – 05/2016 **Study Abroad Program (undergraduate, with scholarship)**
Boston College – Boston, MA, USA
Computer Science, Mathematics and Statistics courses

Teaching Experience (Academic)

09/2021 – 12/2021 **Teaching Assistant (24 hours, partially online)**
Politecnico di Milano, Italy
Classroom exercise for the course "Principles of Programming Languages"
(Scheme, Haskell and Erlang Programming) Prof. Matteo Pradella.

09/2021 – 12/2021 **Teaching Assistant (28 hours, partially online)**
Politecnico di Milano, Italy
Classroom exercise for the course "Fondamenti di Informatica"
(C Programming) Prof. Raffaela Mirandola.

05/2021 **Tutoring Activity (15 hours)**
Politecnico di Milano, Italy
Development of the final project for the course "Algoritmi e Principi dell'Informatica".

09/2020 – 12/2020 **Teaching Assistant (26 hours, partially online)**
Politecnico di Milano, Italy
Classroom exercise for the course "Principles of Programming Languages"
(Scheme, Haskell and Erlang Programming) Prof. Matteo Pradella.

09/2020 – 12/2020 **Teaching Assistant (28 hours, partially online)**
Politecnico di Milano, Italy
Classroom exercise for the course "Fondamenti di Informatica"
(C Programming) Prof. Raffaela Mirandola.

09/2019 – 12/2019 **Teaching Assistant (20 hours)**
Politecnico di Milano, Italy
Classroom exercise for the course "Principles of Programming Languages"
(Scheme, Haskell and Erlang Programming) Prof. Matteo Pradella.

09/2019 – 12/2019 **Teaching Assistant (20 hours)**
Politecnico di Milano, Italy
Classroom exercise for the course "Fondamenti di Informatica"
(C Programming) Prof. Raffaela Mirandola.

03/2019 – 09/2019 **Tutoring Sessions (30 hours)**
Politecnico di Milano, Italy
Classroom exercise and tutoring for the course "Algoritmi e Principi dell'Informatica"
(Formal Languages, Automata and Computability Theory;
Algorithms and Data Structures) Prof. Dino Mandrioli.

05/2019 **Tutoring Activity (10 hours)**
Politecnico di Milano, Italy
Development of the final project for the course "Algoritmi e Principi dell'Informatica".

02/2018 – 06/2018 **Tutoring Sessions (24 hours)**
University of Parma, Italy
Classroom exercise for the course "Fondamenti dell'Informatica"
(Principles of Programming Languages, Automata and Computability Theory)
Prof. Roberto Bagnara

Teaching Experience (Other)

05/2022 **Lectures and Exercise Classes (12 hours, online)**
Cefriel S.Cons.R.L., Milano, Italy
Fastweb Digital Academy 2022 – Advanced Python Coding Course

02/2022 **Lectures and Exercise Classes (16 hours, online)**
Cefriel S.Cons.R.L., Milano, Italy
Fastweb Digital Academy 2022 – Basic Python Coding Course

21/12/2021 – 25/01/2022 **Lectures and Exercise Classes (16 hours, online)**
ITS INCOM, Busto Arsizio, Italy
Big Data Analysis and Data Engineering – Python Coding Course

11/2021 **Lectures and Exercise Classes (12 hours, online)**
Cefriel S.Cons.R.L., Milano, Italy
Fastweb Digital Academy 2021 – Advanced Python Coding Course

07/2021 **Lectures and Exercise Classes (12 hours, online)**
Cefriel S.Cons.R.L., Milano, Italy
Fastweb Digital Academy 2021 – Basic Python Coding Course

02/2021 – 03/2021 **Lectures and Exercise Classes (20 hours, online)**
Cefriel S.Cons.R.L., Milano, Italy
Fastweb Digital Academy 2021 – Basic and Advanced Python Coding Courses

10/2020 – 12/2020 **Lectures and Exercise Classes (24 hours, online)**
Cefriel S.Cons.R.L., Milano, Italy
Fastweb Digital Academy 2020 – Basic and Advanced Python Coding Courses

12/2019 **Lectures and Exercise Classes (8 hours)**
Cefriel S.Cons.R.L., Milano, Italy
Fastweb Academy 2019 – Advanced Python Coding Course

10/2019 **Lectures and Exercise Classes (8 hours)**
Cefriel S.Cons.R.L., Milano, Italy
Fastweb Academy 2019 – Python Coding Course

01/2019 **Lectures and Exercise Classes (8 hours)**
Cefriel S.Cons.R.L., Milano, Italy
Fastweb Academy 2019 – Android Coding Course

Language skills

Italian Native speaker

English Reading: excellent; Writing: excellent; Speaking: good. TOEFL iBT score: 110 (Oct 2014).

Publications

[1] R. Bagnara, A. Bagnara, F. Biselli, M. Chiari, and R. Gori, "Correct approximation of IEEE 754 floating-point arithmetic for program verification," *Constraints*, 2022. To appear.

[2] F. Pontiggia, M. Chiari, and M. Pradella, "Verification of programs with exceptions through operator precedence automata," in *Proc. 19th Int. Conf. Software Engineering and Formal Methods, SEFM'21*, vol. 13085 of *LNCS*, pp. 293–311, Springer, 2021.

[3] D. Cattaneo, M. Chiari, N. Fossati, S. Cherubin, and G. Agosta, "Architecture-aware precision tuning with multiple number representation systems," in *Proc. 58th ACM/IEEE Design Automation Conference, DAC'21*, pp. 673–678, IEEE, 2021.

[4] M. Chiari, D. Mandrioli, and M. Pradella, "Model-checking structured context-free languages," in *Proc. Int. Conf. on Computer Aided Verification, CAV'21, Part II*, vol. 12760 of *LNCS*, pp. 387–410, Springer, 2021.

[5] G. Magnani, D. Cattaneo, M. Chiari, and G. Agosta, "The impact of precision tuning on embedded systems performance: A case study on field-oriented control," in *PARMA-DITAM@HiPEAC 2021*, vol. 88 of *OASIcs*, pp. 3:1–3:13, Dagstuhl, 2021.

[6] R. Bagnara, M. Chiari, R. Gori, and A. Bagnara, "A practical approach to verification of floating-point C/C++ programs with math.h/cmath functions," *ACM Trans. Softw. Eng. Methodol.*, vol. 30, no. 1, pp. 9:1–9:53, 2021.

[7] D. Cattaneo, M. Chiari, G. Magnani, N. Fossati, S. Cherubin, and G. Agosta, "FixM: Code generation of fixed point mathematical functions," *Sustain. Comput. Informatics Syst.*, vol. 29, Part B, p. 100478, 2021.

[8] M. Chiari, D. Mandrioli, and M. Pradella, "Operator precedence temporal logic and model checking," *Theor. Comput. Sci.*, vol. 848, pp. 47–81, 2020.

[9] M. Chiari, D. Bergamaschi, D. Mandrioli, and M. Pradella, "Linear temporal logics for structured context-free languages," in *Proceedings of the 21st Italian Conference on Theoretical Computer Science, Ischia, Italy, September 14-16, 2020*, vol. 2756 of *CEUR Workshop Proceedings*, pp. 115–121, CEUR-WS.org, 2020.

[10] S. Cherubin, D. Cattaneo, M. Chiari, and G. Agosta, "Dynamic Precision Autotuning with TAFFO," *ACM Trans. Archit. Code Optim.*, vol. 17, no. 2, pp. 10:1–10:26, 2020.

[11] S. Cherubin, D. Cattaneo, M. Chiari, A. Di Bello, and G. Agosta, "TAFFO: Tuning Assistant for Floating to Fixed Point Optimization," *IEEE Embedded Systems Letters*, vol. 12, no. 1, pp. 5–8, 2020.

[12] N. Fossati, D. Cattaneo, M. Chiari, S. Cherubin, and G. Agosta, "Automated precision tuning in activity classification systems: a case study," in *PARMA-DITAM@HiPEAC 2020*, pp. 5:1–5:6, ACM, 2020.

[13] M. Chiari, D. Mandrioli, and M. Pradella, "Word- and Tree-based Temporal Logics for Operator Precedence Languages," in *Proceedings of the 20th Italian Conference on Theoretical Computer Science, ICTCS 2019, Como, Italy, September 9-11, 2019*, vol. 2504 of *CEUR Workshop Proceedings*, pp. 222–228, CEUR-WS.org, 2019.

[14] D. Cattaneo, A. Di Bello, M. Chiari, S. Cherubin, and G. Agosta, "Fixed point exploitation via compiler analyses and transformations: Poster," in *Proceedings of the 16th ACM International Conference on Computing Frontiers*, CF '19, (New York, NY, USA), pp. 292–294, ACM, 2019.

[15] D. Cattaneo, M. Chiari, S. Cherubin, A. D. Bello, and G. Agosta, "Feedback-driven performance and precision tuning for automatic fixed point exploitation," in *Proc. Int. Conf. on Parallel Computing, PARCO'19*, vol. 36 of *Advances in Parallel Computing*, pp. 299–308, IOS Press, 2019.

[16] M. Chiari, D. Mandrioli, and M. Pradella, "Temporal logic and model checking for operator precedence languages," in *Proc. 9th Int. Symposium on Games, Automata, Logics, and Formal Verification, GandALF'18*, vol. 277 of *EPTCS*, pp. 161–175, Open Publishing Association, 2018.