

Fabiano Pecorelli

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— PERSONAL INFORMATION

Name
Fabiano Pecorelli
Place of Birth

Date of Birth September 17, 1991

 ${f Address}$

Uilenburg 7H - 5211 EV, 's Hertogenbosch, Netherlands

— JOB POSITIONS

Postdoctoral Researcher

Nocera Inferiore (SA), Italy

Jheronimus Academy of Data Science

Oct 2022 - current

JADS - Eindhoven University of Technology, Netherlands

Postdoctoral Researcher CloudSea.AI research group Nov 2021 - Oct 2022

Tampere University, Finland

EDUCATION

Degree of European Doctor of Philosophy (Ph.D.) in Computer Science

2022

magna cum laude, Advisor: Prof. Andrea De Lucia

University of Salerno, Italy

Master's Degree (MSc) in Computer Science

2018

2016

110/110 magna cum laude, Advisor: Prof. Filomena Ferrucci

University of Salerno, Italy

Bachelor's Degree (BSc) in Computer Science

110/110 magna cum laude, Advisor: Prof. Andrea De Lucia

University of Salerno, Italy

RESEARCH INTERNSHIPS

Visiting PhD Student at University of Zurich (UZH), Switzerland

2019

5 Months as Visiting PhD Student. The research conducted in this period, resulted in the publication of [J3]

Visiting Master Student at University College of London (UCL), United Kingdom

2018

5 Months as Erasmus Student working on my Master's Thesis under the supervision of Prof. Federica Sarro

TEACHING

Lecturer - Introduction to Machine Learning

2023

Master's degree in Data Science in Business and Entrepreneurship, JADS

The course consists of 60 hours of lectures (6 ECTS). I was responsible for 30 hours out of the total.

Teaching Assistant - Academic Writing and Publishing

2022

Ph.D. degree, Tampere University

Evaluation of students' periodic assignments and final reports.

Curriculum Vitae - June 15, 2023

Lecturer - Programming 3

Fall 2022

Bachelor's degree in Computer Science, Tampere University

The course consists of 50 hours of lectures (5 ECTS). I was responsible for 20 hours out of the total.

Lecturer - Programming 3

Spring 2022

Bachelor's degree in Computer Science, Tampere University

The course consists of 50 hours of lectures (5 ECTS). I was responsible for 20 hours out of the total.

Lecturer - Continuous Development and Deployment (DevOps)

2022

Master's degree in Software Engineering, Tampere University

The course consists of 50 hours of lectures (5 ECTS). I was responsible for 16 hours out of the total.

Teaching Assistant - Software Dependability

2021

Master's degree in Software Engineering, University of Salerno

Evaluation of students' final reports and participation in the examination committee.

Teaching Assistant - Software Engineering II: Maintenance and Evolution

2021

Master's degree in Software Engineering, University of Salerno

Evaluation of students' projects and participation in the examination committee.

Teaching Assistant - Software Engineering

2021

Bachelor's degree in Computer Science, University of Salerno

Work contract of 30 hours in the context of the action "Help Teaching". My responsibilities consisted of providing support and tutoring activities, evaluating students' final reports, and participating in the examination committee.

Teaching Assistant - Software Dependability

2020

Master's degree in Software Engineering, University of Salerno

Evaluation of students' final reports and participation in the examination committee.

Teaching Assistant - Software Engineering II: Maintenance and Evolution

2020

Master's degree in Software Engineering, University of Salerno

Evaluation of students' final reports and participation in the examination committee.

Teaching Assistant - Software Engineering

2020

Bachelor's degree in Computer Science, University of Salerno

Work contract of 30 hours in the context of the action "Help Teaching". My responsibilities consisted of providing support and tutoring activities, evaluating students' final reports, and participating in the examination committee.

Teaching Assistant - Programming and Data Structures

2020

Bachelor's degree in Computer Science, University of Salerno

Work contract of 30 hours in the context of the action "Help Teaching". My responsibilities consisted of providing students with support and tutoring activities.

Teaching Assistant - Programming Languages

2020

Bachelor's degree in Computer Science, University of Salerno

Work contract of 30 hours in the context of the action "Help Teaching". My responsibilities consisted of providing students with support and tutoring activities.

Teaching Assistant - Software Dependability

2019

Master's degree in Software Engineering, University of Salerno

Evaluation of students' final reports and participation in the examination committee.

Teaching Assistant - Software Engineering II: Maintenance and Evolution

2019

Master's degree in Software Engineering, University of Salerno

Evaluation of students' final reports and participation in the examination committee.

Teaching Assistant - Software Engineering

2019

Bachelor's degree in Computer Science, University of Salerno

Work contract of 30 hours in the context of the action "Help Teaching". My responsibilities consisted of providing support and tutoring activities, evaluating students' final reports, and participating in the examination committee.

Teaching Assistant - Object Oriented Programming

2019

Bachelor's degree in Computer Science, University of Salerno

Work contract of 40 hours in the context of the action "Help Teaching". My responsibilities consisted of providing students with support and tutoring activities.

Teaching Assistant - Software Engineering II: Maintenance and Evolution

2018

Master's degree in Software Engineering, University of Salerno

Evaluation of students' final reports and participation in the examination committee.

Teaching Assistant - Software Engineering

2018

Bachelor's degree in Computer Science, University of Salerno

Work contract of 30 hours in the context of the action "Help Teaching". My responsibilities consisted of providing support and tutoring activities, evaluating students' final reports, and participating in the examination committee.

Teaching Assistant - Object Oriented Programming

2017

Bachelor's degree in Computer Science, University of Salerno

Work contract of 20 hours in the context of the action "Help Teaching". My responsibilities consisted of providing students with support and tutoring activities.

Teaching Assistant - Programming Languages

2017

Bachelor's degree in Computer Science, University of Salerno

Work contract of 40 hours in the context of the action "Help Teaching". My responsibilities consisted of providing students with support and tutoring activities.

Teaching Assistant - Programming Languages

2017

Bachelor's degree in Computer Science, University of Salerno

Work contract of 20 hours in the context of the action "Help Teaching". My responsibilities consisted of providing students with support and tutoring activities.

Teaching Assistant - Programming and Data Structures

2016

Bachelor's degree in Computer Science, University of Salerno

Work contract of 20 hours in the context of the action "Help Teaching". My responsibilities consisted of providing students with support and tutoring activities.

Projects Participations

Horizon Europe ONCOSCREEN

2023 - current

Jheronimus Academy of Data Science

Unit Leader / Work Package Leader in the context of the Horizon Europe project "ONCOSCREEN", financed by the Horizon Europe framework programme with grant agreement no 101097036. The project goal is to provide support for the prevention and the diagnosis of Colorectal Cancer (CRC) relying on a set of novel, practical, and low-cost screening technologies with high sensitivity and specificity. The consortium is made of medical and technical partners. My responsibilities include: (i) Unit Leader: managing and coordinating all tasks under responsibility of Jheronimus Academy of Data Science, (ii) Work Package Leader for WP4, and (iii) Task Leader for tasks 2.2, 5.4, and 5.5 belonging to WP2 and WP5.

Curriculum Vitae - June 15, 2023

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H2020 DESTINI 2022 - 2023

Jheronimus Academy of Data Science

Unit Leader / Work Package Leader in the context of the H2020 project "DESTINI", financed by the European Commission with grant agreement no 857420. The project goal is to provide support and coordination to promote research on Smart Data. My responsibilities include: (i) Unit Leader: managing and coordinating all tasks under responsibility of Jheronimus Academy of Data Science, (ii) Work Package Leader for WP3, and (iii) Task Leader for tasks 5.1, 5.5 e 6.6 belonging to WP5 and WP6.

React-EU Smart City Monitor

2022 - current

Jheronimus Academy of Data Science

Participation in the React-EU project "Smart City Monitor", financed by the European Union. The project aims to support the development of a digital twin smart city project in the Netherlands. My responsibilities include data analysis, and AI models development and experimentation in the context of Work Package 2.

Participation in Research Groups

JADE Lab - Jheronimus Academy of Data Engineering Lab

2022 - current

Jheronimus Academy of Data Science, Netherlands

Participation in the research activities of the research group "JADE Lab - Jheronimus Academy of Data Engineering Lab", Jheronimus Academy of Data Science (JADS) & Eindhoven University of Technology (Netherlands), where I currently work as a postdoctoral researcher. As for my experience at JADS, so far, I have had the opportunity of working on several National and European projects.

CloudSEA.AI – Cloud, Software Eng., Evolution, and Assessment with AI University of Tampere, Finland 2021 - current

Participation in the research activities of the research group "CloudSEA.AI – Cloud, Software Engineering, Evolution, and Assessment with AI", University of Tampere (Finland), where I spent one year as a researcher (converted to postdoctoral researcher after getting my Ph.D. in March 2022). During this period, I conducted several research activities including defining new trends in Cloud Computing [C21, J9], assessing open-source systems sustainability [J7], and studying some applications of Automatic Static Analysis Tools (ASATs) [C12, J6, J10].

ZEST - Zurich Empirical Software engineering Team

March - July 2019

University of Zurich, Switzerland

Participation in the research activities of the research group "ZEST - Zurich Empirical Software Engineering Team", University of Zurich (Switzerland), where I spent 5 months as a visiting Ph.D. student. During this period, I have been working on the definition and the experimentation of a novel technique that enables automatic test case generation at different granularity levels. The work resulted in a Registered Report [C15] whose extended version is currently under review in the Empirical Software Engineering (EMSE) Journal.

SeSaLab - Software Engineering Salerno

2018 - current

University of Salerno, Italy

Participation in the research activities of the research group "SeSaLab - Software Engineering Salerno", University of Salerno (Italy), where I pursued my Ph.D. degree. My research activities include the definition and development of techniques and tools in the context of Software Maintenance and Evolution. My collaboration with the SeSaLab already resulted in many publications ([J3, J4, J8]) and several other ongoing works.

CREST - UCL Centre for Research on Evolution, Search and Testing University College of London (UCL), United Kingdom March - July 2018

Participation in the research activities of the research group "CREST - UCL Centre for Research on Evolution, Search and Testing", University College of London (United Kingdom), where I spent 5 months as an ERASMUS student. During this experience, I have worked on my Master's Thesis and improved my knowledge about Search-Based Software Engineering.

PROFESSIONAL ACTIVITIES

1. Organizing Committee Participation	
Tool Demo Track Co-Chair 31st IEEE International Conference on Software Analysis, Evolution and Reengineering	2024
SANER 2024, Rovaniemi, Finland	
Program Co-Chair 2nd International Workshop on Quantum Programming for Software Engineering QP4SE 2023, Virtual	2023
Software management: Measurement, Peopleware, and Innovation Track Co-Chair 49th Euromicro Conference Series on Software Engineering and Advanced Applications (SEAA) Euromicro SEAA 2023, Durres, Albania	2022
Poster Track Co-Chair 23rd International Conference on Product-Focused Software Process Improvement Profes 2022, Jyväskylä, Finland	2022
Program Co-Chair 1st International Workshop on Quantum Programming for Software Engineering QP4SE 2022, Virtual	2022
Virtualization Chair 5th International Conference on Technical Debt TechDebt 2022, Virtual	2022
Web Chair 29th IEEE/ACM International Conference on Program Comprehension ICPC 2021, Virtual	2021
Web Chair 28th edition of the IEEE International Conference on Software Analysis, Evolution and Reengineering SANER 2021, Virtual	2021
2. Program Committee Participation Program Committee Member of NIER track 23rd IEEE International Working Conference on Source Code Analysis and Manipulation SCAM 2023, Bogotá, Colombia	2023
Program Committee Member 19th International Conference on Predictive Models and Data Analytics in Software Engineering PROMISE 2023, San Francisco, United States	2023
Program Committee Member of Registered Reports track 17th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement ESEM 2023, New Orleans, United States	2023
Program Committee Member of ERA track 31st IEEE/ACM International Conference on Program Comprehension	2023

ICPC 2023, Melbourne, Australia

Program Committee Member of Registered Reports track 38th IEEE International Conference on Software Maintenance and Evolution	2022
ICSME 2022, Limassol, Cyprus	
Program Committee Member of Registered Reports track 16th ACM/IEEE International Symposium on Empirical Software Engineering and Measure ESEM 2022, Helsinki, Finland	2022 ement
Program Committee Member of NIER track 22nd IEEE International Working Conference on Source Code Analysis and Manipulation SCAM 2022, Limassol, Cyprus	2022
Program Committee Member of RENE/NIER track 14th Symposium on Search-Based Software Engineering SSBSE 2022, Singapore	2022
Program Committee Member of NIER track 37th IEEE/ACM International Conference on Automated Software Engineering ASE 2022, Ann Arbor, Michigan, United States	2022
Program Committee Member of NIER track 9th IEEE/ACM International Conference on Mobile Software Engineering and Systems MobileSoft 2022, Pittsburgh, Pennsylvania, United States	2022
Program Committee Member of Tool Demo track 29th IEEE/ACM International Conference on Program Comprehension ICPC 2021, Virtual	2021
Program Committee Member 12th International Conference on Advances in Databases, Knowledge, and Data Applications DBKDA 2020, Venice, Italy	202 0
Program Committee Member 6th International Conference on Advances and Trends in Software Engineering SOFTENG 2020, Lisbon, Portugal	2020
Program Committee Member 14th International Conference on Software Engineering Advances ICSEA 2019, Valencia, Spain	2019
3. Journal Services	
Transactions on Software Engineering and Methodology (TOSEM) Social Media Editor	2023 - current
Science of Computer Programming Guest Editor - Special issue on Quantum Programming for Software Engineering	2023 - current
Science of Computer Programming Guest Editor - Special issue on Software Quality Assurance for Artificial Intelligence	2022 - 2023
Transactions on Software Engineering (TSE) Reviewer	2022 - current

Transactions on Software Engineering and Methodology (TOSEM) ${\it Reviewer}$	2021 - current
IEEE Software Reviewer	2021 - current
Empirical Software Engineering Journal (EMSE) Reviewer	2020 - current
Journal of Systems and Software (JSS) Reviewer	2020 - current
Software Quality Journal (SQJ) Reviewer	2020 - current
Science of Computer Programming Reviewer	2020 - current
CONFERENCES AND SCHOOL PARTICIPATION	S
$ \textbf{20th IEEE International Conference on Software Architectures - ICSA} \\ \textit{Tutorial on MLOps} $	2023 L'Aquila, Italy
3rd International Workshop on Quantum Software Engineering - Q-SE $\mathit{Talk}\ on\ [\mathit{J8}]$	2022 Virtual
19th International Conference on Mining Software Repositories - MSR $\it Presentation \ of \ [C15]$	2022 Virtual
9th Int. Conf. on Mobile Software Engineering and Systems - Mobile Soft $Presentation\ of\ [C16]$	2022 Virtual
29th IEEE Int. Conf. on Software Analysis, Evolution and Reengineering - SA Presentation of $[C14]$	NER 2022 Virtual
${\bf 42st~ACM/IEEE~International~Conference~on~Software~Engineering~-~ICSE} \label{eq:action} Attendee$	2021 Virtual
29th IEEE/ACM International Conference on Program Comprehension - ICPO Presentation of $[J2]$	C 2021 Virtual
4th International Workshop on Software Health - SoHeal $Presentation \ of \ [J3]$	2021 <i>Virtual</i>
4th Int. Workshop on Machine Learning Techniques for Software Quality Evol $Presentation\ of\ [C12]$	ution 2020 Virtual
International Conference on Advanced Visual Interfaces 2020 - AVI Presentation of [C10], [C11]	2020 Ischia Island, Italy
${\bf 42st~ACM/IEEE~International~Conference~on~Software~Engineering~-~ICSE} \label{tendee}$	2020 <i>Virtual</i>
28th IEEE/ACM International Conference on Program Comprehension - ICPO Presentation of $[C6]$, $[C7]$	C 2020 Virtual

202 0 <i>Virtua</i>
202 0 <i>Virtua</i>
2019 Termoli, Italį
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Quebec, Canada
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Salerno, Italį
2017 Salerno, Italy

Journal Publications

- [J1] Pecorelli, F., Di Nucci, D., De Roover, C., & De Lucia, A. (2020, November). A large empirical assessment of the role of data balancing in machine-learning-based code smell detection. Journal of Systems and Software, 169, 110693.
- [J2] Pecorelli, F., & Di Nucci, D. (2021, January). Adaptive selection of classifiers for bug prediction: A large-scale empirical analysis of its performances and a benchmark study. Science of Computer Programming, 205, 102611.
- [J3] Pecorelli, F., Palomba, F., & De Lucia, A. (2021, February). The Relation of Test-Related Factors to Software Quality: A Case Study on Apache Systems. Empirical Software Engineering, 26, 1-42.
- [J4] Pecorelli, F., Catolino, G., Ferrucci, F., De Lucia, A., & Palomba, F. (2021, December). Software testing and Android applications: a large-scale empirical study. Empirical Software Engineering, 27(2), 1-41.
- [J5] De Stefano, M., Iannone, E., Pecorelli, F., & Tamburri, D. A. (2022, February). Impacts of software community patterns on process and product: An empirical study. Science of Computer Programming, 214, 102731.
- [J6] Pecorelli, F., Lujan, S., Lenarduzzi, V., Palomba, F., & De Lucia, A. (2022, March). On the adequacy of static analysis warnings with respect to code smell prediction. Empirical Software Engineering, 27(3), 1-44.
- [J7] Li, X., Moreschini, S., Pecorelli, F., & Taibi, D. (2022, July). OSSARA: abandonment risk assessment for embedded open source components. IEEE Software, 39(04), 48-53.
- [J8] De Stefano, M., Pecorelli, F., Di Nucci, D., Palomba, F., & De Lucia, A. (2022, August). Software engineering for quantum programming: How far are we?. Journal of Systems and Software, 111326.
- [J9] Moreschini, S., Pecorelli, F., Li, X., Naz, S., Hästbacka, D., & Taibi, D. (2022, December). Cloud Continuum: the definition. IEEE Access, 10, 131876-131886.
- [J10] Lenarduzzi, V., Pecorelli, F., Saarimaki, N., Lujan, S., & Palomba, F. (2023, April). A critical comparison on six static analysis tools: Detection, agreement, and precision. Journal of Systems and Software, 198, 111575.

Conferences & Workshops Publications

- [C1] Pecorelli, F., Palomba, F., Di Nucci, D., & De Lucia, A. (2019, May). Comparing heuristic and machine learning approaches for metric-based code smell detection. In Proceedings of the 2019 IEEE/ACM 27th International Conference on Program Comprehension (ICPC) (pp. 93-104).
- [C2] Pecorelli, F., Di Nucci, D., De Roover, C., & De Lucia, A. (2019, August). On the role of data balancing for machine learning-based code smell detection. In Proceedings of the 3rd ACM SIGSOFT International Workshop on Machine Learning Techniques for Software Quality Evaluation (MaLTeSQuE) (pp. 19-24).
- [C3] Pecorelli, F. (2019, August). Test-related factors and post-release defects: an empirical study. In Proceedings of the 2019 27th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE) (pp. 1235-1237).
- [C4] Pecorelli, F., Palomba, F., Khomh, F., & De Lucia, A. (2020, May). Developer-Driven Code Smell Prioritization. In Proceedings of the 17th International Conference on Mining Software Repositories (MSR) (pp. 220-231).
- [C5] De Stefano, M., Pecorelli, F., Tamburri, D. A., Palomba, F., & De Lucia, A. (2020, June). Splicing Community Patterns and Smells: A Preliminary Study. In Proceedings of the IEEE/ACM 42nd International Conference on Software Engineering (ICSE) Workshops (pp. 703-710).
- [C6] Lambiase, S., Cupito, A., Pecorelli, F., De Lucia, A., & Palomba, F. (2020, July). Just-In-Time Test Smell Detection and Refactoring: The DARTS Project. In Proceedings of the 28th International Conference on Program Comprehension (ICPC) (pp. 441-445).
- [C7] Pecorelli, F., Catolino, G., Ferrucci, F., De Lucia, A., & Palomba, F. (2020, July). Testing of Mobile Applications in the Wild: A Large-Scale Empirical Study on Android Apps. In Proceedings of the 28th International Conference on Program Comprehension (ICPC) (pp. 296-307).
- [C8] Iannone, E., Pecorelli, F., Di Nucci, D., Palomba, F., & De Lucia, A. (2020, July). Refactoring Android-specific Energy Smells: A Plugin for Android Studio. In Proceedings of the 28th International Conference on Program Comprehension (ICPC) (pp. 451-455).
- [C9] De Stefano, M., Pecorelli, F., Tamburri, D. A., Palomba, F., & De Lucia, A. (2020, September). Refactoring Recommendations Based on the Optimization of Socio-Technical Congruence. In Proceedings of the 36th IEEE International Conference on Software Maintenance and Evolution (ICSME) (pp. 794-796).
- [C10] Pecorelli, F., Di Lillo, G., Palomba, F., & De Lucia, A. (2020, September). VITRuM: A Plug-In for the Visualization of Test-Related Metrics. In Proceedings of the 2020 International Conference on Advanced Visual Interfaces (AVI) (pp. 1-3).
- [C11] De Stefano, M., Gambardella, M. S., Pecorelli, F., Palomba, F., & De Lucia, A. (2020, September). cASpER: A Plug-in for Automated Code Smell Detection and Refactoring. In Proceedings of the 2020 International Conference on Advanced Visual Interfaces (AVI) (pp. 1-3).
- [C12] Lujan, S., Pecorelli, F., Palomba, F., De Lucia, A., & Lenarduzzi, V. (2020, November). A preliminary study on the adequacy of static analysis warnings with respect to code smell prediction. In Proceedings of the 4th ACM SIGSOFT International Workshop on Machine-Learning Techniques for Software Quality Evaluation (MaLTeSQuE) (pp. 1-6).
- [C13] De Stefano, M., Pecorelli, F., Palomba, F., & De Lucia, A. (2021, August). Comparing withinand cross-project machine learning algorithms for code smell detection. In Proceedings of the 5th International Workshop on Machine Learning Techniques for Software Quality Evaluation (Maltesque) (pp. 1-6).

- [C14] Nguyen, H., Lomio, F., Pecorelli, F., & Lenarduzzi, V. (2022, March). PANDORA: Continuous mining software repository and dataset generation. In Proceedings of the 29th IEEE International Conference on Software Analysis, Evolution and Reengineering (SANER) (pp. 263-267).
- [C15] Pecorelli, F., Grano, G., Palomba, F., Gall, H. C., & De Lucia, A. (2022, April). Toward Granular Automatic Unit Test Case Generation. arXiv preprint arXiv:2204.05561.
- [C16] Iannone, E., De Stefano, M., Pecorelli, F., & De Lucia, A. (2022, May). Predicting The Energy Consumption Level of Java Classes in Android Apps: An Exploratory Analysis. In Proceedings of the 9th IEEE/ACM International Conference on Mobile Software Engineering and Systems (MobileSoft) (pp. 1-5).
- [C17] Lambiase, S., Catolino, G., Pecorelli, F., Tamburri, D. A., Palomba, F., van den Heuvel, W. J., & Ferrucci, F. (2022, August). "There and Back Again?" On the Influence of Software Community Dispersion Over Productivity. In Proceedings of the 48th Euromicro Conference Series on Software Engineering and Advanced Applications (SEAA) (pp. 177-184).
- [C18] Recupito, G., Pecorelli, F., Catolino, G., Moreschini, S., Di Nucci, D., Palomba, F., & Tamburri, D. A. (2022, August). A Multivocal Literature Review of MLOps Tools and Features. In Proceedings of the 48th Euromicro Conference on Software Engineering and Advanced Applications (SEAA) (pp. 84-91).
- [C19] Amoroso d'Aragona, D., Pecorelli, F., Romano, S., Scanniello, G., Baldassarre, M. T., Janes, A., & Lenarduzzi, V. (2022, October). CATTO: Just-in-time Test Case Selection and Execution. In Proceedings of the 38th IEEE International Conference on Software Maintenance and Evolution (ICSME) (pp. 459-463).
- [C20] De Stefano, M., Pecorelli, F., Di Nucci, D., & De Lucia, A. (2022, October). A preliminary evaluation on the relationship among architectural and test smells. In Proceedings of the IEEE 22nd International Working Conference on Source Code Analysis and Manipulation (SCAM) (pp. 66-70).
- [C21] Moreschini, S., Pecorelli, F., Li, X., Naz, S., Albano, M., Hästbacka, D., & Taibi, D. (2022, December). Cognitive Cloud: the definition. In Distributed Computing and Artificial Intelligence (DCAI), 19th International Conference (pp. 219-229).