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Confirmation Number: 1114185
Template: Full CV

Dr. Fabio Petrillo

Correspondence language: English
Sex: Male
Date of Birth: 3/19
Designated Group: Visible Minority
Canadian Residency Status: Permanent Resident
Permanent Residency Start Date: 2013/06/08
Country of Citizenship: Brazil

Contact Information

The primary information is denoted by (*)

Address

Primary Affiliation (*)

555, boulevard de l'Université
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Canada

Telephone

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Email

Personal	fabio.petrillo@gmail.com
Work (*)	fabio.petrillo@uqac.ca

Website

Personal	http://fabiopetrillo.com

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Dr. Fabio Petrillo

Language Skills

Language	Read	Write	Speak	Understand	Peer Review
English	Yes	Yes	Yes	Yes	Yes
French	Yes	Yes	Yes	Yes	Yes
Italian	Yes	No	No	Yes	No
Portuguese	Yes	Yes	Yes	Yes	Yes
Spanish; Castilian	Yes	No	No	Yes	No

Degrees

2017/9 - 2018/6

Post-doctorate, Post-doctorate in Software Engineering, Software Engineering, Concordia University
Degree Status: Completed

Supervisors: Wahab Hamou-lhadj, 2018/1 - 2018/7; Yann-Gaël Guéhéneuc, 2017/9 - 2018/7

Research Disciplines: Computer Engineering and Software Engineering

Areas of Research: Software Development, Software (Tools)

Fields of Application: Communication and Information Technologies

2011/7 - 2016/10

Doctorate, PhD of Computer Science, Software Engineering, Universidade Federal Do Rio Grande Do Sul
Degree Status: Completed
Thesis Title: Swarm debugging: the collective debugging intelligence of the crowd

Supervisors: Marcelo Soares Pimenta, 2011/7 - 2016/10; Carla Maria Dal Sasso Freitas, 2011/7 - 2016/10

Research Disciplines: Computer Engineering and Software Engineering

Areas of Research: Software Development, Software (Tools)

Fields of Application: Communication and Information Technologies

2014/5 - 2015/12

Certificate, English Certificate, English, Université du Québec à Montréal
Degree Status: Completed

2007/3 - 2009/1	Master's Thesis, Master of Computer Science, Software Engineering, Universidade Federal Do Rio Grande Do Sul Degree Status: Completed Thesis Title: Agile practices in development process of electronic games Supervisors: Marcelo Soares Pimenta, 2017/3 - 2009/1 Research Disciplines: Computer Engineering and Software Engineering Areas of Research: Software Development Fields of Application: Communication and Information Technologies
2003/4 - 2004/8	Diploma, Post-Graduate Diploma, Post-Graduate Diploma Open Source Systems, Universidade do Vale do Rio Dos Sinos Degree Status: Completed Thesis Title: Developping mobile computation on free software Supervisors: Cristiano André da Costa, 2003/8 - 2004/8 Research Disciplines: Computer Engineering and Software Engineering Areas of Research: Software Development Fields of Application: Communication and Information Technologies
2001/9 - 2002/9	Diploma, Post-Graduate Diploma, Post-Graduate Diploma Networking and Distributed Systems, Universidade Federal Do Rio Grande Do Sul Degree Status: Completed Research Disciplines: Computer Engineering and Software Engineering, Computer Science Areas of Research: Distributed and Simultaneous Processing, Network Analysis (Information) Fields of Application: Communication and Information Technologies
1997/3 - 2001/1	Bachelor's, Eletrical Engineer, Electrical Enginnering, Universidade Federal Do Rio Grande Do Sul Degree Status: Completed Research Disciplines: Electrical Engineering and Electronic Engineering Fields of Application: Energy

Credentials

2011/10	Certified Scrum Master, Scrum Alliance Agile principles and Scrum practices into your world of work takes diligence, patience, and a commitment to continuous improvement.

Recognitions

2017/9 - 2018/5	Nomination Gala Méritas 2017-2018 - Meilleur Chargé de Course École Polytechnique de Montréal Distinction Nomination Gala Méritas 2017-2018 - Meilleur Chargé de Cours (one of 3) - Génie informatique et logiciel pour le cours INF3710, LOG8430 et LOG8371

2016/9 - 2017/5	Nomination Gala Méritas 2016-2017 - Meilleur Enseignant École Polytechnique de Montréal Distinction Cycles supérieurs - Génie informatique et logiciel (one of 5) pour le cours LOG8430

User Profile

Researcher Status: Researcher
Research Career Start Date: 2018/08/01
Engaged in Clinical Research?: No

Key Theory / Methodology: Swarm Debugging Empirical Software Engineering Agile practices and Computer Games

Research Interests: Software Quality Debugging Log Analytics using Machine Learning Software Architecture SOA on Cloud Computing Agile Methods Computer Games and Software Engineering

Research Experience Summary: I have worked on Software Quality, and Architecture, Debugging, Computer Games and SE, Service-Oriented Architecture, RESTful analysis on Cloud, and Agile Methods. I have has been recognized as a pioneer and an international reference on Computer Games and Software Engineering. Further, I was the creator of Swarm Debugging, a new collaborative approach to support debugging activities.

Research Specialization Keywords: Empirical Software Engineering, Computer Games, Software Quality, Software Testing, Debugging, Log Analytics, Machine Learning

Technological Applications: Software

Disciplines Trained In: Computer Engineering and Software Engineering, Electrical Engineering and Electronic Engineering

Research Disciplines: Computer Engineering and Software Engineering, Computer Science

Areas of Research: Computer Systems, Software (Tools), Software Development

Fields of Application: Communication and Information Technologies

Employment

2018/8	Associate Professor Department of Computer Science and Mathematics, Université du Québec à Chicoutimi Full-time, Associate Professor Tenure Status: Tenure Track Software engineering professor Research Disciplines: Computer Engineering and Software Engineering Areas of Research: Software Development Fields of Application: Communication and Information Technologies
2017/9 - 2018/7	Postdoctoral Fellow Department of Computer Science and Software Engineering, Concordia University Full-time Tenure Status: Non Tenure Track Debugging and log analytics practices. Research Disciplines: Computer Engineering and Software Engineering Areas of Research: Software (Tools), Software Development Fields of Application: Communication and Information Technologies

2016/1 - 2017/8	Research Associate Department of Software Engineering, École Polytechnique de Montréal Full-time, Lecturer Tenure Status: Non Tenure Track Debugging practices (Swarm Debugging)
2001/7 - 2013/5	Software Engineer, manager, internal consultant Department of Software Engineering, City Data Processing Company of Porto Alegre (PROCEMPA) Full-time Technical director's consultant - advising on software engineering processes and practices. Implementation of agile practices and mentoring of agile coaches. Software development manager - leading teams on media communication systems. Implementation of agile processes and practices. Manager of department of systems (100 developers) - proving very large information systems (6 million of users). Team leader of software projects and agile coach. Methodology team - proposing of company methods and technologies. Software engineer - development of system - Java, JavaScript, PHP, Delphi Fields of Application: Communication and Information Technologies
1999/12 - 2001/7	Software Engineer Department of Informatics, Court of Justice of Rio Grande do Sul State Full-time Development of court process systems (Delphi). Fields of Application: Communication and Information Technologies
1998/12 - 1999/12	Software Engineer Department of Informatics, Brazilian Federal Court of Justice Full-time Development and support of court process systems (Visual Basic). Fields of Application: Communication and Information Technologies
1995/3 - 1998/12	Software Engineer and System Administrator Department of Informatics, Secretary of Planning of Rio Grande do Sul State Full-time Development and support process systems (Visual Basic). Network and infrastructure administrator. Fields of Application: Communication and Information Technologies

Affiliations

The primary affiliation is denoted by (*)

(*) 2018/8	Associate Professor, Université du Québec à Chicoutimi

Research Funding History

Awarded [n=3]

2019/4 - 2024/3 Principal Investigator	NSERC Discovery Grants Program - Early Career Researcher, Grant, Establishment Clinical Research Project?: No Project Description: Building software quality models for computer games

Funding Sources:

2019/4 - 2024/3 Natural Sciences and Engineering Research Council of Canada (NSERC)
Discovery Grants
Total Funding - 127,500 (Canadian dollar)
Portion of Funding Received - 35,500 (Canadian dollar)
Funding Competitive?: Yes
Funding Reference Number: RGPIN-2019-05339

2019/11 - 2022/11
Principal Investigator

Data Security and Privacy Assurance at LABVI, Grant, Operating

Research Uptake Stakeholders: Academic Personnel

Funding Sources:

2019/11 Accelerate
Total Funding - 60,000 (Canadian dollar) (Canadian dollar)
Funding Reference Number: T13201

2018/8 - 2020/8
Principal Investigator

Startup Grant, Grant, Establishment

Funding Sources:

2018/4 - 2020/4 UQAC Startup Grant
Total Funding - 20,000 (Canadian dollar)
Portion of Funding Received - 100 (Canadian dollar)
Funding Renewable?: No
Funding Competitive?: No

Completed [n=2]

2018/3 - 2018/7
Collaborator

LAFORCE: Log Analytics for Operational Intelligence, Fellowship
Project Description: The goal of this project is to explore the use of log analytics and machine/deep learning techniques to improve Ubisoft operational intelligence. At Ubisoft, logs are used extensively for various system diagnosis tasks. The analysis of logs, however, is usually performed manually, limiting the full potential of the information contained in logs. In this project, we will explore the use of logs and deep learning to support two Ubisoft priority areas, namely the detection of anomalies and automated load and stress testing. We will also examine the practice of logging at Ubisoft and propose recommendations. The outcomes of this research project will result in superior diagnosis techniques that leverage the power of logs combined with deep learning techniques, while reducing the associated costs. The proposed project will train one postdoctoral fellow who will contribute to the growth of Canada's Information and Communication Technology sector.

Research Uptake Stakeholders: Academic Personnel

Research Settings: Canada

Funding Sources:

2018/3 - 2018/7 Mathematics of Information Technology and Complex Systems (MITACS)
MITACS Accelerate
Total Funding - 15,000 (Canadian dollar)
Portion of Funding Received - 100 (Canadian dollar)
Funding Competitive?: No

Research Disciplines: Computer Engineering and Software Engineering

Areas of Research: Software (Tools)

Fields of Application: Communication and Information Technologies

Co-investigator : Yann-Gaël Guéhéneuc;

Principal Applicant : Abdelwahab Hamou-Lhadj

2017/9 - 2018/2
Collaborator

Postdoctoral fellow from Starting Grant of Prof. Yann-Gaël Guéhéneuc at Concordia University., Fellowship
Clinical Research Project?: No
Project Description: Multi-language systems analysis Debugging practices and collaborative approaches (Swarm Debugging).

Research Uptake Stakeholders: Academic Personnel

Research Settings: Canada

Funding Sources:

2017/8 - 2018/6 Concordia University
Startup Grant
Total Funding - 10,000 (Canadian dollar)
Portion of Funding Received - 100
Funding Competitive?: No

Research Disciplines: Computer Engineering and Software Engineering

Areas of Research: Software Development

Principal Investigator : Yann-Gaël Guéhéneuc

Courses Taught

Lecturer, Informatics, Centro Universitário Ritter dos Reis (UNIRitter)
Course Title: Software Engineering
Course Topic: Software Engineering
Course Level: Undergraduate
Academic Session: Fall
Number of Students: 50
Number of Credits: 3
Lecture Hours Per Week: 3
Guest Lecture?: No

Lecturer, Universidade Federal Do Rio Grande Do Sul
Course Title: Open Source Software
Course Topic: Open source software
Course Level: Post Graduate
Academic Session: Fall
Number of Students: 25
Number of Credits: 3
Lecture Hours Per Week: 3
Guest Lecture?: No

Lecturer, Universidade Federal Do Rio Grande Do Sul
Course Title: Requirements management
Course Topic: Software requeriments engineering
Course Level: Post Graduate
Academic Session: Summer
Number of Students: 30
Number of Credits: 3
Lecture Hours Per Week: 3
Guest Lecture?: No

Lecturer, Informatics, UDF Centro Universitario
Course Title: Computer Game Design I
Course Topic: Computer Game Design
Course Level: Undergraduate
Academic Session: Winter
Number of Students: 50
Number of Credits: 3
Lecture Hours Per Week: 3
Guest Lecture?: No

Lecturer, Informatics, UDF Centro Universitario
Course Title: Computer Game Design I
Course Topic: Computer Game Design
Course Level: Undergraduate
Academic Session: Fall
Number of Students: 50
Number of Credits: 3
Lecture Hours Per Week: 3
Guest Lecture?: No

Lecturer, École Polytechnique de Montréal
Course Title: Software Architecture and Advanced Conception
Course Code: LOG8430
Course Topic: Software Architecture
Course Level: Graduate
Academic Session: Winter
Number of Students: 55
Number of Credits: 3
Lecture Hours Per Week: 3
Guest Lecture?: No

2020/01/07 - 2020/04/21

Professor, Université du Québec à Chicoutimi
Course Title: Software Architecture
Course Topic: Software Engineering
Course Level: Graduate
Number of Students: 22
Number of Credits: 3
Lecture Hours Per Week: 3

2020/01/07 - 2020/04/21

Professor, Université du Québec à Chicoutimi
Course Title: Software Engineering
Course Topic: Software Engineering
Course Level: Graduate
Number of Students: 27
Number of Credits: 3
Lecture Hours Per Week: 3

2019/08/26 - 2019/12/16
Professor, DIM, Université du Québec à Chicoutimi
Course Title: Software Engineering
Course Code: 8INF851
Course Topic: Software Engineering
Course Level: Graduate
Academic Session: Fall
Number of Students: 31
Number of Credits: 3
Lecture Hours Per Week: 3

2019/08/26 - 2019/12/16
Professor, DIM, Université du Québec à Chicoutimi
Course Title: Lecture dirigée en sciences et technologies de l'information
Course Code: INF9083
Course Topic: Computer Science
Course Level: Graduate
Academic Session: Fall
Number of Students: 4
Number of Credits: 3
Tutorial Hours Per Week: 4

2019/08/26 - 2019/12/16
Professor, DIM, Université du Québec à Chicoutimi
Course Title: Software Architecture and Quality
Course Code: 8INF228
Course Topic: Software Engineering
Course Level: Undergraduate
Academic Session: Fall
Number of Students: 8
Number of Credits: 3
Lecture Hours Per Week: 3

2019/08/26 - 2019/12/16
Professor, DIM, Université du Québec à Chicoutimi
Course Title: Sujets spéciaux
Course Code: 8INF950
Course Topic: Software Engineering
Course Level: Graduate
Academic Session: Fall
Number of Students: 1

2019/05/06 - 2019/08/23
Professor, DIM, Université du Québec à Chicoutimi
Course Title: Stage
Course Code: 8INF859
Course Topic: Computer Science
Course Level: Graduate
Academic Session: Summer
Number of Students: 9

2019/05/06 - 2019/06/28
Professor, DIM, Université du Québec à Chicoutimi
Course Title: Software Engineering
Course Code: 8INF851
Course Topic: Software Engineering
Course Level: Graduate
Section: May-June
Academic Session: Summer
Number of Students: 23
Number of Credits: 3
Lecture Hours Per Week: 6

2019/05/06 - 2019/06/28
Professor, DIM, Université du Québec à Chicoutimi
Course Title: Sujets spéciaux
Course Code: 8INF950
Course Topic: Software Engineering
Course Level: Graduate
Section: May-June
Academic Session: Summer
Number of Students: 2
Number of Credits: 3

2019/01/10 - 2019/04/18
Professor, Université du Québec à Chicoutimi
Course Title: Software Engineering
Course Code: 8INF851
Course Topic: Software Engineering
Course Level: Graduate
Number of Students: 23
Number of Credits: 3
Lecture Hours Per Week: 3
Guest Lecture?: No

2018/08/29 - 2018/12/12
Professor, Informatique et Mathématique, Université du Québec à Chicoutimi
Course Title: Software Engineering
Course Code: 8INF851
Course Topic: Software Engineering
Course Level: Post Graduate
Academic Session: Fall
Number of Students: 32
Number of Credits: 3
Lecture Hours Per Week: 3
Guest Lecture?: No

2018/01/09 - 2018/04/30
Lecturer, École Polytechnique de Montréal
Course Title: Software Quality Engineering
Course Code: LOG8371
Course Topic: Software Quality
Course Level: Graduate
Academic Session: Winter
Number of Students: 116
Number of Credits: 3
Lecture Hours Per Week: 3
Lab Hours Per Week: 4
Guest Lecture?: No

2018/01/09 - 2018/04/30
Lecturer, École Polytechnique de Montréal
Course Title: Software Architecture and Advanced Conception
Course Code: LOG8430
Course Topic: Software Architecture
Course Level: Graduate
Academic Session: Winter
Number of Students: 50
Number of Credits: 3
Lecture Hours Per Week: 3
Guest Lecture?: No

2018/01/08 - 2018/04/27
Professor, DIM, Université du Québec à Chicoutimi
Course Title: Stage-projet I
Course Code: 8INF309
Course Topic: Software Engineering
Course Level: Undergraduate
Academic Session: Winter
Number of Students: 2
Number of Credits: 3

2017/09/05 - 2017/12/01
Lecturer, École Polytechnique de Montréal
Course Title: Database systems
Course Code: INF3710
Course Topic: Database systems
Course Level: Undergraduate
Academic Session: Fall
Number of Students: 100
Number of Credits: 3
Lecture Hours Per Week: 3
Guest Lecture?: No

2017/09/05 - 2017/12/01
Lecturer, École Polytechnique de Montréal
Course Title: Software Architecture and Advanced Conception
Course Code: LOG8430
Course Topic: Software Architecture
Course Level: Graduate
Academic Session: Fall
Number of Students: 50
Number of Credits: 3
Lecture Hours Per Week: 3
Guest Lecture?: No

2017/01/03 - 2017/04/28
Lecturer, École Polytechnique de Montréal
Course Title: Software Quality Engineering
Course Code: LOG8371
Course Topic: Software Quality
Course Level: Graduate
Academic Session: Winter
Number of Students: 90
Number of Credits: 3
Lecture Hours Per Week: 3
Lab Hours Per Week: 4
Guest Lecture?: No

2017/01/03 - 2017/04/28
Teacher Assistant, École Polytechnique de Montréal
Course Title: Software Architecture and Advanced Conception
Course Code: LOG8430
Course Topic: Software Architecture
Course Level: Graduate
Academic Session: Winter
Number of Students: 50
Number of Credits: 3
Lab Hours Per Week: 2

2016/09/01 - 2016/12/01
Lecturer, École Polytechnique de Montréal
Course Title: Software Architecture and Advanced Conception
Course Code: LOG8430
Course Topic: Software Architecture
Course Level: Graduate
Academic Session: Fall
Number of Students: 50
Number of Credits: 3
Tutorial Hours Per Week: 3
Guest Lecture?: No

2017/01/03 - 2016/04/29
Lecturer, École Polytechnique de Montréal
Course Title: Database systems
Course Code: INF3710
Course Topic: Database systems
Course Level: Undergraduate
Academic Session: Winter
Number of Students: 60
Number of Credits: 3
Lecture Hours Per Week: 3
Guest Lecture?: No

2016/07/06 - 2016/04/29
Teacher Assistant, École Polytechnique de Montréal
Course Title: Software Architecture and Advanced Conception
Course Code: LOG8430
Course Level: Graduate
Academic Session: Winter
Number of Students: 45
Number of Credits: 3
Lab Hours Per Week: 2
Guest Lecture?: No

Student/Postdoctoral Supervision

Bachelor's [n=2]

2018/5 - 2018/8
Principal Supervisor
Anas Bouziane (In Progress) , Ecole Polytechnique de Montreal
Student Degree Start Date: 2016/8
Student Canadian Residency Status: Permanent Resident
Thesis/Project Title: Log severity level classification using machine learning techniques
Project Description: Build a log severity level classifier using machine learning techniques, as Random Forest.
Present Position: Student

Project Funding Sources: IVADO
Amount - 5,000 (Canadian dollar)

2018/1 - 2018/12
Principal Supervisor

Gabriel Veras (Completed) , Federal University of Rio Grande do Sul
Student Degree Start Date: 2011/3
Student Degree Received Date: 2018/12
Student Canadian Residency Status: Not Applicable
Thesis/Project Title: Supporting Swarm Debugging on Interpreted Programming Languages
Project Description: Implement Swarm Debuggers to interpreted languages as JavaScript, Python and Ruby.
Present Position: Student
Student Country of Citizenship: Brazil

Other Supervisors: Principal Supervisor - Pimenta, Marcelo

Research Disciplines: Computer Engineering and Software Engineering

Master's Thesis [n=5]

2020/4
Principal Supervisor

Eduardo Fontana (In Progress) , Université du Québec à Chicoutimi
Student Degree Start Date: 2020/4
Student Canadian Residency Status: Student Work Permit
Thesis/Project Title: Swarm Debugging
Student Country of Citizenship: Brazil

2020/1
Principal Supervisor

Raphael Barbosa (In Progress) , Université du Québec à Chicoutimi
Student Degree Start Date: 2020/1
Student Canadian Residency Status: Student Work Permit
Thesis/Project Title: Mining software repositories
Student Country of Citizenship: Brazil

2019/8
Principal Supervisor

Demetrio Guilardi (In Progress) , Université du Québec à Chicoutimi
Student Degree Start Date: 2019/8
Student Canadian Residency Status: Student Work Permit
Thesis/Project Title: Android behavioural change analysis
Student Country of Citizenship: Brazil

2018/8 - 2019/5
Principal Supervisor

Diana El-masri (In Progress) , Polytechnique Montreal
Student Degree Start Date: 2018/1
Student Canadian Residency Status: Canadian Citizen
Thesis/Project Title: Automatic severity level classification using machine learning
Project Description: Using machine learning techniques, reclassify log entries in Devops context.
Present Position: Student
Student Country of Citizenship: Canada

Other Supervisors: Principal Supervisor - Guéhéneuc, Yann-Gaël

Research Disciplines: Computer Engineering and Software Engineering

Areas of Research: Software Development

2016/1 - 2017/7
Principal Supervisor

Cristiano Politowski (Completed) , Universidade Federal de Santa Maria
Student Degree Start Date: 2015/3
Student Degree Received Date: 2017/9
Student Canadian Residency Status: Not Applicable
Thesis/Project Title: Sistema de recomendação de processos para o desenvolvimento de jogos digitais
Present Position: Student
Student Country of Citizenship: Brazil

Other Supervisors: Co-Supervisor - Fontoura, Lisandra

Research Disciplines: Computer Engineering and Software Engineering

Doctorate [n=8]

2020/1
Principal Supervisor

Eduardo Mendes (In Progress) , Université du Québec à Chicoutimi
Student Degree Start Date: 2020/1
Student Canadian Residency Status: Permanent Resident
Thesis/Project Title: Self-adaptative SE systems
Student Country of Citizenship: Brazil

2019/9
Principal Supervisor

Marcela Santos (In Progress) , Université du Québec à Chicoutimi
Student Degree Start Date: 2019/9
Student Canadian Residency Status: Student Work Permit
Thesis/Project Title: Software Engineering for Robotics
Student Country of Citizenship: Brazil

2019/8
Principal Supervisor

Jalves Nicacio (In Progress) , Université du Québec à Chicoutimi
Student Degree Start Date: 2019/8
Student Canadian Residency Status: Student Work Permit
Thesis/Project Title: Programming mental models
Student Country of Citizenship: Brazil

2019/8
Principal Supervisor

Bianca Napoleao (In Progress) , UQAC
Student Degree Start Date: 2019/8
Student Degree Expected Date: 2022/7
Student Canadian Residency Status: Student Work Permit
Thesis/Project Title: Mining Software Process
Student Country of Citizenship: Brazil

Project Funding Sources: Natural Sciences and Engineering Research Council of Canada (NSERC)
Amount - 54,000 (Canadian dollar)

Other Supervisors: Co-Supervisor - Sylvain, Halle

2019/8
Principal Supervisor

Ricardo Avila (In Progress) , Université du Québec à Chicoutimi
Student Degree Start Date: 2019/8
Student Canadian Residency Status: Student Work Permit
Thesis/Project Title: Models for VCS
Student Country of Citizenship: Brazil

2019/5 - 2024/5 Principal Supervisor	Diana El-masri (In Progress) , Polytechnique de Montreal Student Degree Start Date: 2019/5 Student Canadian Residency Status: Canadian Citizen Thesis/Project Title: Observability practices in distributed systems Present Position: Student Student Country of Citizenship: Canada Other Supervisors: Co-Supervisor - Gueheneuc, Yann-Gael; Co-Supervisor - Kohm, Foutse
2018/9 - 2023/9 Co-Supervisor	Cristiano Politowski (In Progress) , Concordia University Student Degree Start Date: 2018/9 Student Canadian Residency Status: Student Work Permit Thesis/Project Title: Software Engineering for Computer Games Present Position: Student
2017/3 - 2021/12 Principal Supervisor	Guilherme Lacerda (In Progress) , Federal University of Rio Grande do Sul Student Degree Start Date: 2017/3 Student Canadian Residency Status: Not Applicable Thesis/Project Title: Refactoring bad smells Present Position: Student Other Supervisors: Principal Supervisor - Pimenta, Marcelo

Staff Supervision

Mentoring Activities

2019/6 - 2019/8	Internship mentor, Université du Québec à Chicoutimi Number of Mentorees: 2 Mentorees: Iago Correa Vincent Gagnon Implementing Swarm Debugging
2018/4 - 2018/8	Internship mentor, École Polytechnique de Montréal Number of Mentorees: 1 Mentorees: Anas Bouziane Intern research mentoring
2017/4 - 2017/8	Internship mentor, École Polytechnique de Montréal Number of Mentorees: 2 Mentorees: Raphael Bissonnette and Dipti Sahu Internship research mentoring

Journal Review Activities

2018/5 - 2019/9	Reviewer,Journal of Software and Systems,Elsevier Number of Works Reviewed / Refereed: 3
2019/1 - 2019/3	Reviewer,IEEE Access Number of Works Reviewed / Refereed: 1
2017/1 - 2019/3	Reviewer,Empirical Software Engineering,Springer Nature Number of Works Reviewed / Refereed: 3

2017/8 - 2018/7 Reviewer,Transactions on Software Engineering (TSE),IEEE Computer Society
Number of Works Reviewed / Refereed: 2

2017/9 - 2017/9 Reviewer,Journal of Software: Evolution and Process,John Wiley & Sons Ltd
Number of Works Reviewed / Refereed: 1

Conference Review Activities

2019/11 - 2019/11 PC Member, ACM Technical Symposium on Computer Science Education (SIGCSE 2019), Double Blind, ACM
Number of Works Reviewed / Refereed: 9

2019/6 - 2019/11 PC Member, ACM Technical Symposium on Computer Science Education (SIGCSE 2020), Double Blind, ACM
Number of Works Reviewed / Refereed: 7

2019/8 - 2019/8 PC Member, Workshop on Software Visualization, Evolution and Maintenance, Blind, Brazilian Conference on Software: Theory and Practice (CBSoft)
Number of Works Reviewed / Refereed: 1

2019/5 - 2019/5 PC Member, MobiSPC2019 - The 16th International Conference on Mobile Systems and Pervasive Computing, Blind, ELSEVIER
Number of Works Reviewed / Refereed: 2

2019/3 - 2019/5 PC Member, IEEE International Conference on Software Quality, Reliability and Security (QRS) 2019., Double Blind
Number of Works Reviewed / Refereed: 7

2019/1 - 2019/5 Procedings Chair, PC Member, IEEE International Conference of Software Comprehension (ICPC) 2019, Double Blind, IEEE International Conference of Software Engineering (ICSE) 2019
Number of Works Reviewed / Refereed: 8

2019/3 - 2019/3 PC Member, 1st International Workshop on Software Engineering Research & Practices for the Internet of Things, Blind, IEEE International Conference of Software Engineering (ICSE) 2019
Number of Works Reviewed / Refereed: 4

2019/2 - 2019/2 PC Member, 1st International Workshop on Software Engineering Research & Practices for the Internet of Things (SERP4IoT 2019), Blind, ACM/IEEE ICSE 2019
Number of Works Reviewed / Refereed: 4

2018/10 - 2018/10 PC Member, The 50th ACM Technical Symposium on Computer Science Education (SIGCSE 2018), Double Blind, ACM
Number of Works Reviewed / Refereed: 9

2018/8 - 2018/8 PC Member, Workshop on Software Visualization, Evolution and Maintenance, Blind, Brazilian Conference on Software: Theory and Practice (CBSoft)
Number of Works Reviewed / Refereed: 2

2018/2 - 2018/5 PC Member, IEEE/ACM International Conference of Program Comprehension, Double Blind, IEEE Computer Society
Number of Works Reviewed / Refereed: 6

2017/8 - 2017/9 Reviewer, Asia-Pacific Software Engineering Conference, Double Blind, The Special Interest Group on Software Engineering, Information Processing Society of Japan (IPSJ/SIG-SE)
Number of Works Reviewed / Refereed: 1

2017/7 - 2017/7 Reviewer, IEEE International Conference on Software Maintenance and Evolution, Double Blind, IEEE Computer Society
Number of Works Reviewed / Refereed: 1

2017/2 - 2017/2 Reviewer, IEEE International Conference on Program Comprehension, Double Blind, IEEE Computer Society
Number of Works Reviewed / Refereed: 1

2016/11 - 2016/12 Reviewer, IEEE International Conference on Software Engineering (NIER), Double Blind, IEEE Computer Society
Number of Works Reviewed / Refereed: 1

2016/3 - 2016/3 Reviewer, IEEE Working Conference on Software Visualization -- Artifacts Track, Double Blind, IEEE Computer Society
Number of Works Reviewed / Refereed: 2

2015/3 - 2016/3 PC Member, International Workshop on Games and Software Engineering, Blind, IEEE Computer Society
Number of Works Reviewed / Refereed: 4

2016/1 - 2016/1 External Reviewer, Conference on Human Factors in Computing Systems (CHI), Double Blind, ACM SIGCHI
Number of Works Reviewed / Refereed: 1

2015/7 - 2015/7 Reviewer, Workshop on Software Visualization, Evolution and Maintenance, Blind, Brazilian Conference on Software: Theory and Practice (CBSoft)
Number of Works Reviewed / Refereed: 2

2012/7 - 2012/7 Reviewer, Workshop on Software Visualization, Evolution and Maintenance, Blind, Brazilian Conference on Software: Theory and Practice (CBSoft)
Number of Works Reviewed / Refereed: 2

Graduate Examination Activities

2020/1 - 2020/1 PhD Comprehensive Exam Committee Member, Diana El-masri, Génie informatique et génie logiciel, École Polytechnique de Montréal

2020/1 - 2020/1 PhD Oral Exam Member, Cristiano Politowski, Computer Science and Software Engineering, Concordia University

2019/9 - 2019/9 , Gleison Brito, Computer Science, Universidade Federal de Minas Gerais

2019/8 - 2019/8 PhD Oral Exam Member, Ricardo Ávila, Computer Science, Universidade Federal do Ceará

2019/6 - 2019/6 PhD Comprehensive Exam Committee Member, Cristiano Politowski, Computer Science and Software Engineering, Concordia University

2018/12 - 2018/12 PhD Oral Exam Member, Zayan Elkhaled, Département d'informatique et mathématique, Université du Québec à Chicoutimi

2018/11 - 2018/11 PhD Oral Exam Member, Ghassan Fadlallah, Département d'informatique et mathématique, Université du Québec à Chicoutimi

Community and Volunteer Activities

2018/10 - 2018/10 Technical Coach, Université du Québec à Chicoutimi
Coaching team in the first "CGI CodeJam" software engineering competition.

Committee Memberships

2019/8	Committee Member, Comité de pédagogie universitaire (CPU), Université du Québec à Chicoutimi

Most Significant Contributions

2017/1

Cloud Computing System - REST APIs

I surveyed the literature and compile a catalogue of 73 best practices in the design of REST APIs making APIs more understandable and reusable [10]. Using my catalogue, I performed a study of three different REST APIs (Google Cloud, OpenStack, and OCCI) to investigate how their APIs are offered and accessed [10]. I showed that best practices can help evaluate REST APIs and design better REST APIs concerning understandability and reusability. Also, I developed an open source approach for extracting and analyzing REST cloud computing lexicons [11]. Using my approach, I studied the lexicons and the linguistic (anti)patterns from 16 providers of REST Cloud Computing APIs [12], and I observed that, although the 16 REST APIs describe the same domain (Cloud computing), contrary to what one might expect, their lexicons do not share a large number of common terms and 90% of the terms are just used by one provider. Finally, my work contributes in designing interoperable of Cloud APIs.

2016/10

Swarm Debugging

I developed novel techniques and tools to support and study developers collaboration practices during debugging. Debugging remains, as of today, one of the most costly (time, effort) activity during software development and also one of the most solitary: while other activities benefit from collaborative tools, such as reviewing tools, debugging lacks such support. Any improvement to reduce debugging time and effort through collaborations has the potential to ease this activity dramatically. During interactive debugging, developers produce a lot of information about systems and help developers to learn their ways into their systems and, therefore, become experts. This information is however lost after the end of the developers' debugging activities. To allow developers to leverage knowledge of others' debugging activities during a new debugging activity, I introduced the concept of Swarm Debugging (SD). SD uses developers' cooperative effort to share knowledge about debugging.

2008/3

Software Engineering for Computer Games (SEGA)

Game development is an extremely complex activity. In a pioneer study using computer game postmortems, I showed that game projects suffer from management and process problems. To alleviate these problems, I proposed that agile processes are appropriated when innovation and speed to market are vital in game development are not backed by qualitative and quantitative evidence. My results were confirmed in a survey of the software engineering processes in the computer game industry from postmortem analyses, modelling them using Business Process Model and Notation (BPMN). I found that iterative practices are more and more adopted and applied, in at least 55% of the projects. I showed that video game and traditional software development share similar processes and practices. However, I identified that the iterative process and agile practice are yet misunderstood by some game developers and managers.

Text Interviews

2019/08/21 Computer Games Development, Bruno Izidro, UOL Start
https://www.uol.com.br/start/reportagens-especiais/crunch-criando-games-sob-pressao/
Description / Contribution Value: Discussion about game development process versus traditional software development process.

Publications

Journal Articles

1. Diana El-Masri, Fabio Petrillo, Yann-Gaël Gueheneuc; Abdelwahab Hamou-Lhadj, Anas Bouziane. (2020). A Systematic Literature Review on Automated Log Abstraction Techniques. Information and Software Technology. : (17 pages).
Co-Author
Published, Elsevier,
Refereed?: Yes
Number of Contributors: 5

2. Mohammed Sayagh, Noureddine Kerzazi, Fabio Petrillo, Khalil Bennani et Bram Adams. (2020). What should your Run-time Configuration Framework do to Help Developers?. Empirical Software Engineering.
Co-Author
Accepted, Springer,
Refereed?: Yes
Number of Contributors: 5

3. Cristiano Politowski, Foutse Khom, Simone Romano Giuseppe Scanniello, Fabio Petrillo, Yann-Gaël Guéhéneuca, Abdou Maiga. (2020). A Large Scale Empirical Study of the Impact of Spaghetti Code and Blob Anti-patterns on Program Comprehension. Information and Software Technology. In Press
Co-Author
Published, Elsevier,
Refereed?: Yes

4. Fabio Petrillo, Yann-Gaël Géuhéneuc, Marcelo Pimenta, Carla Freitas, Foutse Khomh. (2019). Swarm Debugging: the Collective Intelligence on Interactive Debugging. Journal of Systems and Software. 153: 152-174.
http://dx.doi.org/10.1016/j.jss.2019.04.028
First Listed Author
Published, Elsevier,
Refereed?: Yes
Number of Contributors: 5

5. Guilherme Lacerda Fabio Petrillo Marcelo Pimenta Yann-Gaël Guéhéneuc. (2019). Code Smells and Refactorings: A Tertiary Systematic Review of Challenges and Solutions. Journal of Systems and Software.
Co-Author
Revision Requested, Elsevier,
Refereed?: Yes
Number of Contributors: 4

6. Hayet Brabra, Achraf Mtibaa, Fabio Petrillo, Philippe Merle, Layth Sliman, Naouel Moha, Walid Gaaloul, Yann-Gaël Guéhéneuc, Boualem Benatallah, Faïez Gargouri. (2019). On Semantic Detection of Cloud API (Anti)Patterns. Information and Software Technology. 107(March 2019): 65-82.
Co-Author
Published, Elsevier,
Refereed?: Yes, Open Access?: No, Synthesis?: No
Number of Contributors: 10

7. Mohammed Sayagh, Noureddine Kerzazi, Fabio Petrillo, Bram Adams. (2018). Software Configuration Engineering in Practice - Interviews, Survey, and Systematic Literature Review. IEEE Transactions on Software Engineering. Early Access
Co-Author
Published, IEEE Computer Society,
Refereed?: Yes
Number of Contributors: 4

8. Cristiano Politowski, Lisandra M. Fontoura, Fabio Petrillo, Yann-Gaël Guéhéneuc. (2018). Learning from the past: A process recommendation system for video game projects using postmortems experiences. Information & Software Technology. 100: 103 - 118.
http://dx.doi.org/10.1016/j.infsof.2018.04.003
Co-Author
Published,
Refereed?: Yes, Open Access?: No
Number of Contributors: 4

9. Petrillo F., Merle P., Palma F., Moha N., Guéhéneuc YG. (2018). A Lexical and Semantical Analysis on REST Cloud Computing APIs. Cloud Computing and Service Science. 864: 308--332.
http://dx.doi.org/10.1007/978-3-319-94959-8_16
First Listed Author
Published, Springer International Publishing, United States
Refereed?: Yes, Open Access?: No, Synthesis?: No
Number of Contributors: 5
Editors: Ferguson D., Muñoz V., Cardoso J., Helfert M., Pahl C.

10. Guilherme Avelino, Leonardo Passos, Fabio Petrillo, Marco Tulio Valente. (2018). Who Can Maintain this Code? Assessing the Effectiveness of Repository-Mining Techniques for Identifying Software Maintainers. IEEE Software. 36(6): 34 - 42.
http://dx.doi.org/10.1109/MS.2018.185140155
Co-Author
Published, IEEE Software,
Refereed?: Yes
Number of Contributors: 4

Thesis/Dissertation

1. Swarm debugging : the collective debugging intelligence of the crowd. (2016). Universidade Federal Do Rio Grande Do Sul. Doctorate.
Number of Pages: 125 Supervisor: Marcelo Soares Pimenta
Description / Contribution Value: We introduce the concept of Swarm Debugging, to bring crowdsourcing to the activity of debugging. Through crowdsourcing, we aim at helping developers by capitalizing on their dedication, effort, and long hours of work to ease debugging activities of their peers or theirs, on other bugs. We show that swarm debugging requires a particular approach to collect relevant information, and we describe the Swarm Debugging Infrastructure. We also show that swarm debugging minimizes developers effort.

2. Agile practices on video game development process. (2008). Universidade Federal Do Rio Grande Do Sul. Master's Thesis.
Number of Pages: 168 Supervisor: Marcelo Soares Pimenta
Description / Contribution Value: The aim of this work is to study the effects of agile practices on electronic game development process, analysing the most important problems in the game industry, surveying best practices and proposing a set of agile practices focused on the game development issues.

Conference Publications

1. Marcela Santos Bianca Napoleao Fabio Petrillo. (2019). Robotic Systems and Blockchain: a software systems perspective. Frontiers in Robotics and AI. Second Symposium on Blockchain for Robotics and AI Systems, Boston, United States ((11 pages)),
Conference Date: 2019/12
Paper
Co-Author
Accepted
Refereed?: Yes, Invited?: No
Number of Contributors: 3

2. Hamid Mcheick, Youness Dendane, Fabio Petrillo, and Souhail Ben-Ali. (2019). Quality model for evaluating and choosing a stream processing framework architecture. IEEE. 16th ACS/IEEE International Conference on Computer Systems and Applications (AICCSA 2019), Abu Dhabi, United Arab Emirates ((7 pages)). IEEE, United States
Conference Date: 2019/11
Paper
Co-Author
Accepted
Refereed?: Yes, Invited?: No
Number of Contributors: 4

3. Philippe Marcotte Frédéric Grégoire Fabio Petrillo. (2019). Multiple Fault-tolerance Mechanisms in Cloud Systems: a Systematic Review. 3rd International Workshop on Software Faults (IWSF/ISSRE 2019), Berlin, Germany ((8 pages)). IEEE Press, United States
Conference Date: 2019/10
Paper
Last Author
Accepted
Refereed?: Yes, Invited?: No
Number of Contributors: 3

4. Raphael Khoury Abdelwahab Hamou-Lhadj Mohamed Ilyes Rahim Sylvain Hallé Fabio Petrillo. (2019). TRIADE: A Three-Factor Trace Segmentation Method to Support Program Comprehension. 3rd International Workshop on Software Faults (IWSF - ISSRE 2019), Prague, Germany ((8 Pages)). IEEE Press, United States
Conference Date: 2019/10
Paper
Last Author
Accepted
Refereed?: Yes, Invited?: No
Number of Contributors: 5

5. Laure Bedu Olivier Tinh Fabio Petrillo. (2019). A tertiary systematic literature review on Software Visualization. 7th IEEE Working Conference on Software Visualization (VISSOFT 2019), Cleveland, United States ((12 pages)). IEEE Press, United States
Conference Date: 2019/9
Paper
Last Author
Accepted
Refereed?: Yes, Invited?: No
Number of Contributors: 3

6. Louis Racicot, Nicolas Cloutier, Julien Abt, Fabio Petrillo. (2019). Quality Aspects of Serverless Architecture: An Exploratory Study on Maintainability. 14th International Conference on Software Technologies - ICSOFT, Prague, Czech Republic (60-70). INSTICC, Portugal
Conference Date: 2019/7
Paper
Last Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 4

7. Eduardo A. Fontana and Fabio Petrillo. (2019). Visualizing sequences of debugging sessions using Swarm Debugging. 27th International Conference on Program Comprehension (ICPC '19), Montreal, Canada (139-143). IEEE Press,
Conference Date: 2019/5
Paper
Co-Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 2

8. Zayan El Khaled Hamid Mcheick Fabio Petrillo. (2019). Wifi coverage range characterization for smart space applications. Proceedings of the 1st International Workshop on Software Engineering Research & Practices for the Internet of Things (SERP4IoT '19), Montreal, Canada (61-68). IEEE Press, http://dx.doi.org/10.1109/SERP4IoT.2019.00018
Conference Date: 2019/5
Paper
Last Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 3

9. Gregory Fournier Fabio Petrillo. (2018). Challenges and solutions on architecting Blockchain Systems. Proceedings of the 28th Annual International Conference on Computer Science and Software Engineering (CASCON), Toronto, Canada ((8 pages)),
Conference Date: 2018/10
Paper
Co-Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 2

10. Naoures Ghrairi, Amine Barrak, Fabio Petrillo, Segla Kpodjedo, and Foutse Khomh. (2018). **The State of Practice on Virtual Reality (VR) Applications: an Exploratory Study on Github and Stack Overflow**. Proceedings of the 2018 IEEE International Conference on Software Quality, Reliability and Security (QRS), Lisbon, Portugal ((12 pages)). IEEE, United States
Conference Date: 2018/7
Paper
Co-Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 5

11. Aiko Yamashita, Fabio Petrillo, Foutse Khomh and Yann-Gaël Guéhéneuc. (2018). Developer Interaction Traces backed by IDE Screen Recordings from Think-aloud Sessions. Proceedings of the 15th International Conference on Mining Software Repositories (MSR). International Conference on Mining Software Repositories (MSR), Gothenburg, Sweden ((4 pages)). IEEE, United States
Conference Date: 2018/5
Paper
Co-Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 4

12. Francisco Jose Rego Lopes, Fabio Petrillo. (2018). SimKan: Training Kanban Practices Through Stochastic Simulation. Agile Methods. Revised Selected Papers of WBMA 2016. Communications in Computer and Information Science, Curitiba, Brazil (110--121). Springer International Publishing, United States
http://dx.doi.org/10.1007/978-3-319-55907-0_10
Conference Date: 2016/11
Paper
Co-Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 2
Editors: Silva da Silva T., Estácio B., Kroll J., Mantovani Fontana R.

13. Fabio Petrillo, Marcelo Pimenta, Francisco Trindade, and Carlos Dietrich. (2018). Houston, we have a problem...: a survey of actual problems in computer games development. Proceeding SAC '08 Proceedings of the 2008 ACM symposium on Applied computing. ACM Symposium on Applied computing, Fortaleza, Brazil (707-711). ACM, United States
http://dx.doi.org/10.1145/1363686.1363854
Conference Date: 2008/3
Paper
First Listed Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 4

14. F. Petrillo, H. Mandian, A. Yamashita, F. Khomh and Y. G. Guéhéneuc. (2017). How Do Developers Toggle Breakpoints? Observational Studies. Proceeding 2017 IEEE International Conference on Software Quality, Reliability and Security (QRS). IEEE International Conference on Software Quality, Reliability and Security (QRS), Prague, Czech Republic (285-295). IEEE, United States
http://dx.doi.org/10.1109/QRS.2017.39
Conference Date: 2017/7
Paper
First Listed Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 5

15. Fabio Petrillo, Philippe Merle, Naouel Moha, Yann-Gael Gueheneuc. (2017). Towards a REST Cloud Computing Lexicon. Proceedings of the 7th International Conference on Cloud Computing and Services Science. International Conference on Cloud Computing and Services Science, Porto, Portugal (348--355). SCITEPRESS, Portugal
http://dx.doi.org/10.5220/0006281203480355
Conference Date: 2017/4
Paper
First Listed Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 4

16. Petrillo F., Merle P., Moha N., Guéhéneuc YG. (2016). Are REST APIs for Cloud Computing Well-Designed? An Exploratory Study. Service-Oriented Computing. Lecture Notes in Computer Science. Proceedings of 14th International Conference, ICSOC 2016, Banff, Canada (157-170). Springer International Publishing, United States
http://dx.doi.org/10.1007/978-3-319-46295-0_10
Conference Date: 2016/10
Paper
First Listed Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 4
Editors: Sheng Q., Stroulia E., Tata S., Bhiri S

17. F. Petrillo, Z. Soh, F. Khomh, M. Pimenta, C. Freitas and Y. G. Guéhéneuc. (2016). Towards Understanding Interactive Debugging. Proceeding 2016 IEEE International Conference on Software Quality, Reliability and Security (QRS). IEEE International Conference on Software Quality, Reliability and Security (QRS), Vienna, Austria (152-163). IEEE, United States
http://dx.doi.org/10.1109/QRS.2016.27
Conference Date: 2016/8
Paper
First Listed Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 6

18. Cristiano Politowski, Lisandra Fontoura, Fabio Petrillo, and Yann-Gaël Guéhéneuc. (2016). Are the old days gone?: a survey on actual software engineering processes in video game industry. International Workshop on Games and Software Engineering GAS@ICSE, Austin, United States (22-28). ACM, United States
http://dx.doi.org/10.1145/2896958.2896960
Conference Date: 2016/5
Paper
Co-Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 4

19. F. Petrillo and Z. Soh and F. Khomh and M. Pimenta and C. Freitas and Y. G. Guéhéneuc. (2016). Understanding interactive debugging with Swarm Debug Infrastructure. Proceeding IEEE 24th International Conference on Program Comprehension (ICPC). International Conference on Program Comprehension (ICPC), Austin, United States (1-4). IEEE, United States
http://dx.doi.org/10.1109/ICPC.2016.7503740
Conference Date: 2016/5
Paper
First Listed Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 6

20. F. Petrillo and G. Lacerda and M. Pimenta and C. Freitas. (2015). Visualizing interactive and shared debugging sessions. Proceeeing IEEE 3rd Working Conference on Software Visualization (VISSOFT). IEEE Working Conference on Software Visualization (VISSOFT), Bremen, Germany (140-144). IEEE, United States
http://dx.doi.org/10.1109/VISSOFT.2015.7332425
Conference Date: 2015/9
Paper
First Listed Author
Published
Refereed?: Yes, Invited?: No
Number of Contributors: 4