

Mairieli Wessel

POSTDOCTORAL RESEARCHER

Delft University of Technology · The Netherlands

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Designing *intelligent support* for developers by leveraging *software bot* capabilities

Experience

RESEARCH

Delft University of Technology

Delft, The Netherlands

POSTDOCTORAL RESEARCHER

Sept. 2021 - Until now

Postdoctoral Researcher at the Software Engineering Research Group (SERG), working in the TestShift project with *Prof. Andy Zaidman*

Concordia University

Montreal, Canada

VISITING PH.D. STUDENT

Feb. 2021 - Jul. 2021

Visiting scholar at Concordia University's Data-driven Analysis of Software (DAS) Lab with *Prof. Emad Shihab*

IBM Research

São Paulo, Brazil

RESEARCH INTERN

Apr 2019 - Feb 2020

Graduate research intern at the Conversational Intelligence group at IBM Research laboratory in Brazil with *Dr. Heloisa Candello*

DEVELOPMENT

Mactus

Campo Mourão, Paraná, Brazil

FULLSTACK DEVELOPER

Jan 2012 - Dec 2017

Web stack and native application stack developer. Working on Java and PHP projects.

Education

Institute of Mathematics and Statistics (IME) at University of São Paulo (USP)

São Paulo, Brazil

PH.D. IN COMPUTER SCIENCE

Feb. 2018 - Aug. 2021

- Dissertation: *Perception of Software Bots on Pull Requests on Social Coding Environments*
- Committee: Dr. Marco A. Gerosa (supervisor), Dr. Igor Steinmacher (co-supervisor), Dr. Andy Zaidman, Dr. Gustavo Pinto, Dr. Raquel Prates

Federal University of Technology - Paraná (UTFPR)

Campo Mourão, Paraná, Brazil

B.S. IN COMPUTER SCIENCE

Feb. 2014 - Dec. 2017

- Monograph topic: *Tweaking Association Rules to Optimize Software Change Recommendations*. (In Portuguese)
- Advisor: Dr. Igor Scaliante Wiese

Publications

Most important publications marked with ★.

JOURNAL ARTICLES [PEER-REVIEWED]

[J.1] Quality Gatekeepers: Investigating the Effects of Code Review Bots on Pull Request

EMSE 2022

Activities ★

WESSEL, M., SEREBRENİK, A., WIESE, I., STEINMACHER, I., GEROSA, M.

- In the Special Issue of ICSME 2020 of the Empirical Software Engineering (EMSE)
- **My contribution: 75%**. As the first author of this paper, I helped conceive the study, performed the data analysis and modeling, and wrote most of the manuscript.

FULL CONFERENCE PAPERS [PEER-REVIEWED]

[C.11] BotHunter: An Approach to Detect Software Bots in GitHub

MSR 2022

ABDELLATIF, A., WESSEL, M., STEINMACHER, I., GEROSA, M., AND SHIHAB, E.

[To appear] Mining Software Repositories (MSR)

[C.10] Unveiling Practices of Customer Service Content Curators of Conversational Agents

CSCW 2022

CANDELLO, H., PINHANEZ, C., MULLER, M., AND WESSEL, M.

[To appear] ACM Conference on Supported Cooperative Work and Social Computing (CSCW)

[C.9] Bots for Pull Requests: The Good, the Bad, and the Promising ★

ICSE 2022

WESSEL, M., ABDELLATIF, A., WIESE, I., CONTE, T., SHIHAB, E., GEROSA, M., STEINMACHER, I.

Acceptance rate: 26%

- IEEE/ACM International Conference on Software Engineering (ICSE)
- **My contribution: 80%.** As the first author of this paper, I helped conceive the study, performed the data analysis and modeling, and wrote most of the manuscript. This paper involves researchers from multiple institutions and countries and I led the research.

[C.8] Don't Disturb Me: Challenges of Interacting with Software Bots on Open Source Software Projects ★

CSCW 2021

WESSEL, M., WIESE, I., STEINMACHER, I., GEROSA, M.

- ACM Conference on Supported Cooperative Work and Social Computing (CSCW)
- **My contribution: 75%.** As the first author of this paper, I helped conceive the study, performed the data analysis and modeling, and wrote most of the manuscript.

[C.7] How Do Software Developers Use GitHub Actions to Automate Their Workflows?

MSR 2021

KINSMAN, T., WESSEL, M., GEROSA, M., TREUDE, C.

Mining Software Repositories (MSR)

[C.6] What to Expect from Code Review Bots? A Survey with OSS Maintainers

SBES 2020

WESSEL, M., SEREBRENIK, A., WIESE, I., STEINMACHER, I., GEROSA, M.

Insightful Ideas and Emerging Results Track of Brazilian Symposium on Software Engineering (SBES - IIER)

[C.5] Effects of Adopting Code Review Bots on Pull Requests to OSS Projects [Distinguished Paper Award] ★

ICSME 2020

WESSEL, M., SEREBRENIK, A., WIESE, I., STEINMACHER, I., GEROSA, M.

Acceptance rate: 24.9%

- 36th IEEE International Conference on Software Maintenance and Evolution (ICSME)
- **My contribution: 75%.** As the first author of this paper, I helped conceive the study, performed the data analysis and modeling, and wrote most of the manuscript.

[C.4] Co-designing a Conversational Interactive Exhibit for Children

IDC 2020

CANDELLO, H., VIDON, S., PINHANEZ, C., AND WESSEL, M.

19th ACM Interaction Design and Children (IDC)

[C.3] Teaching Robots to Act and Converse in Physical Spaces: Participatory Design Fictions with Museum Guides

HTTF 2019

CANDELLO, H., PICHILIANI, M., WESSEL, M., PINHANEZ, C., AND MULLER, M.

Halfway to the Future Symposium (HTTF 2019)

[C.2] The Power of Bots: Characterizing and Understanding Bots in OSS Projects ★

CSCW 2018

WESSEL, M., DE SOUZA, B. M., STEINMACHER, I., WIESE, I. S., POLATO, I., CHAVES, A. P., AND GEROSA, M. A.

Acceptance rate: 27%

- ACM Conference on Supported Cooperative Work and Social Computing (CSCW)
- **My contribution: 75%.** As the first author of this paper, I helped conceive the study, performed the data analysis and modeling, and wrote most of the manuscript.

[C.1] Tweaking Association Rules to Optimize Software Change Recommendations

SBES 2017

WESSEL, M., ANICHE, M. F., OLIVA, G. A., GEROSA, M. A., AND WIESE, I. S.

31st Brazilian Symposium on Software Engineering (SBES)

WORKSHOP + CONSORTIUM PAPERS [PEER-REVIEWED]

[W.7] Shaping the Future of Human-Bot Partnership in Open Source Software

CSCW 2021 workshop

WESSEL, M., STEINMACHER, I., GEROSA, M.

Human-Machine Partnerships in the Future of Work Workshop

[W.6] Enhancing Developers' Support on Pull Requests Activities with Software Bots

ESEC/FSE 2020

WESSEL, M.

ESEC/FSE 2020 Doctoral Symposium

[W.5] Leveraging Software Bots to Enhance Developers' Collaboration in Online Programming Communities

CSCW Companion 2020

WESSEL, M.

Companion Publication of the 2020 Conference on Computer Supported Cooperative Work and Social Computing: Doctoral Consortium

[W.4] The Inconvenient Side of Software Bots on Pull Requests

BotSE 2020

WESSEL, M., AND STEINMACHER, I.

2nd International Workshop on Bots in Software Engineering (BotSE)

[W.3] Unveiling Practices and Challenges of Machine Teachers of Customer Service Conversational Systems

CUI@CHI 2020

CANDELLO, H., WESSEL, M., PINHANEZ, C., AND VIDON, S.

CHI2020 workshop: Mapping Grand Challenges for the Conversational (CUI@CHI)

[W.2] 30 Minutes to Introduce AI to Kids

AAAI Fall Symposium 2019

CANDELLO, H., PICHILIANI, M., PINHANEZ, C., AND WESSEL, M.

Teaching AI in K-12 Symposium (2019 AAAI Fall Symposium)

[W.1] Should I Stale or Should I Close? An Analysis of a Bot that Closes Abandoned Issues and Pull Requests

BotSE 2019

WESSEL, M., STEINMACHER, I., WIESE, I., AND GEROSA, M. A.

1st Workshop on Bots in Software Engineering (BotSE)

Service

EDITORIAL

2021 **Guest Editor** of the Special Issue on Bots in Software Engineering – IEEE Software Magazine

ORGANIZING COMMITTEES

2022 **Co-organizer** of the ACM/IEEE International Workshop on Bots in Software Engineering (BotSE)

2021 **Co-organizer** of the ACM/IEEE International Workshop on Bots in Software Engineering (BotSE)

JOURNAL REVIEWER

2022, 2021 **Manuscript Reviewer** of the Empirical Software Engineering (EMSE)

2021 **Manuscript Reviewer** of the Transactions on Software Engineering and Methodology (TOSEM)

2021 **Manuscript Reviewer** of the PeerJ Computer Science

2020 **Manuscript Reviewer** of the Journal of Systems & Software (JSS)

PROGRAM COMMITTEES

2022 **Committee Member** of the 36th Brazilian Symposium on Software Engineering (SBES) - Education Track

2022 **Committee Member** of the 36th Brazilian Symposium on Software Engineering (SBES) - Technical Track

2022 **Associate Chair** of the ACM SIGCHI Conference on Designing Interactive Systems (DIS)

2022 **Committee Member** of the IEEE/ACM International Conference on Global Software Engineering (ICGSE)

2022 **Committee Member** of the International Conference on Program Comprehension (ICPC)

2022 **Committee Member** of the ACM/IEEE MSR Challenge Track

2022 **Committee Member** of the ACM/IEEE ICSE Artifact Evaluation

2021 **Committee Member** HCAI: Human Centered AI Workshop

2021 **Video Co-Chair** of the International Conference on Program Comprehension (ICPC)

2021 **Shadow PC Member** of the ACM/IEEE Mining Software Repositories Conference (MSR)

2020 **Committee Member** of the ACM/IEEE International Workshop on Bots in Software Engineering (BotSE)

EXTERNAL REVIEWS

2022 **Reviewer** of the ACM Conference on Human Factors in Computing Systems (CHI)

2022 **Sub-reviewer** of the ACM/IEEE International Conference on Software Engineering (ICSE)

2022 **Sub-reviewer** of the ACM International Conference on Supporting Group Work (GROUP)

2021 **Reviewer** of the ACM Conference on Supported Cooperative Work and Social Computing (CSCW)

2020 **Sub-reviewer** of the Workshop sobre Aspectos Sociais, Humanos e Econômicos de Software (WASHES)

2020 **Reviewer** of the ACM CHI Late-Breaking Works

2019 **Sub-reviewer** of the ACM/IEEE International Workshop on Bots in Software Engineering (BotSE)

VOLUNTEER

2022 **Volunteer** of the Native Scientist project for Portuguese language workshops for expats children in the Netherlands

2020 **Student Volunteer** of the IEEE/ACM International Conference on Global Software Engineering (ICGSE)

Mentoring

UNDERGRADUATE STUDENTS

Improving Bots Information Presentation on Pull Requests

Eric Ribeiro and Ronan de Souza

BSC DISSERTATION – PUC MINAS, BRAZIL

2021

In my daily supervision, two bachelor students implemented and evaluated a bot to summarize other bots outputs on GitHub platform. The project is co-supervised by Prof. Hugo de Paula.

The Role of Women in Information Technology: The case of IFTO

Laira Giovana Martins Macedo

BSC DISSERTATION – FEDERAL INSTITUTE OF TOCANTINS (IFTO), BRAZIL

2022 – Until now

In my daily supervision, the student conducted a survey with approximately 100 teachers and students from IFTO to understand their career pathways. The project is co-supervised by MSc Thatiane Rosa.

GRADUATE STUDENTS

Code coverage bots on GitHub

Alexander Sterk

MASTER THESIS – TU DELFT, NETHERLANDS

2021 – Until now

In my daily supervision, the student conducted a survey with approximately 300 open-source project maintainers and contributors to understand the role of coverage bots. The project is co-supervised by Prof. Andy Zaidman.

Teaching

Delft University of Technology

Delft, The Netherlands

LECTURER

Aug 2021 - Nov 2021

4 lectures (including evaluation) in Software Engineering Methods course for non-Computer Science undergraduate students at TU Delft [Class size \approx 220 students].

4Makers

Campo Mourão, Paraná, Brazil

INSTRUCTOR

Jan 2017 - Dec 2017

Robotics STEM Instructor for primary students [Class size \approx 20 students].

Federal University of Technology - Paraná (UTFPR)

Campo Mourão, Paraná, Brazil

TEACHING ASSISTANT

Jun 2016 - Dec 2016

Teaching assistant for Database Management Systems course for Computer Science undergraduate students at UTFPR. Duties included tutoring lectures (weekly), and evaluating assignments and examinations. [Class size \approx 15 students].

Invited Talks

GUEST LECTURER

Federal University of Technology - Paraná (UTFPR) – Open Source Software Development [graduate/undergraduate co-convened]

Virtual

PRACTICAL SESSION: AUTOMATE GITHUB WORKFLOWS WITH BOTS

Mar. 2022

University of Mons – Software Evolution [graduate course]

Mons, Belgium

AN EXTRA PAIR OF HANDS: THE ROLE OF BOTS IN COLLABORATIVE SOFTWARE DEVELOPMENT

Feb. 2022

Federal Institute of Tocantins (IFTO) – Advanced Topics in Software Engineering [undergraduate course]

Virtual

IMPROVING DEVELOPERS COMMUNICATION ONE BOT AT A TIME

Dec. 2021

Federal University of Technology - Paraná (UTFPR) – Special Topics in Software Engineering [graduate/undergraduate co-convened]

Virtual

BOTS ON OPEN-SOURCE SOFTWARE PROJECTS: TO INFINITY AND BEYOND!

Apr. 2021

Federal University of Technology - Paraná (UTFPR) – Experimental Software Engineering [graduate course]

APPLYING QUALITATIVE METHODS TO UNDERSTAND BOTS USAGE ON GITHUB

Virtual

Apr. 2021

Northern Arizona University (NAU) – Open Source Software Development [graduate/undergraduate co-convened]

SOFTWARE BOTS ON OPEN-SOURCE SOFTWARE PROJECTS

Virtual

Nov. 2020

GUEST SPEAKER

It Will Never Work in Theory event

HOW PEOPLE USE GITHUB ACTIONS

Virtual

April. 2022

Federal University of Amazonas – Usability and Software Engineering (USES) group

WHEN SCIENCE FICTION MEETS DESIGN... AND BOTS

Manaus, Brazil

Jan. 2022

Eindhoven University of Technology – Software Engineering and technology (SET) group colloquium

THERE WILL BE A BOT FOR EVERYTHING: SHAPING THE FUTURE OF BOTS FOR SOFTWARE DEVELOPMENT

Eindhoven, The Netherlands

Nov. 2021

Emílias - Armação em Bits Podcast

[LINK TO PODCAST - IN PORTUGUESE]

Virtual

Dec. 2021

POSTER PRESENTER

Alice & Eve Workshop

“BEEP BOOP! LET’S CHAT?” BOTS TO FOSTER DIVERSITY IN ONLINE PROGRAMMING COMMUNITIES

Nijmegen, The Netherlands

Nov. 2021

Awards & Honors

2021	Service Recognition Award , International Conference on Program Comprehension (ICPC)	Virtual
2021	Scholarship , Emerging Leaders in the Americas Program (ELAP)	Canada
2020	Distinguished Paper Award , ICSME 2020 IEEE TCSE Distinguished Paper Award	
2019	Invited Participant , Dagstuhl Seminar – BOTse: Bots in Software Engineering	Germany
2019	Invited Participant , ICSE 2019 Student Mentoring Workshop (SMeW)	Canada
2019	Recipient , SIGSOFT Travel Grants ICSE 2019 SMEW	Canada
2019	Invited Participant , First International Summer School in Research Methods for HCI/CSCW	Brazil
2018	Fellow , National Council for Scientific and Technological Development (CNPq)	Brazil
2017	Best Class Performance Award in the Undergraduate Degree in Computer Science , Federal University of Technology - Paraná	Brazil

References

Prof. Dr Andy Zaidman

FULL PROFESSOR AT DELFT UNIVERSITY OF TECHNOLOGY

A.E.Zaidman@tudelft.nl – <https://azaidman.github.io>

Prof. Dr Marco A. Gerosa

ASSOCIATE PROFESSOR AT NORTHERN ARIZONA UNIVERSITY

Marco.Gerosa@nau.edu – <https://www.ime.usp.br/~gerosa>

Prof. Dr Alexander Serebrenik

FULL PROFESSOR AT EINDHOVEN UNIVERSITY OF TECHNOLOGY

a.serebrenik@tue.nl – <https://www.win.tue.nl/~aserebre>