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Felipe Ebert

Research Interests

My research interests are related to how software systems and developers interact with each other. I'm interested in both technical and social aspects of software maintenance, specifically code reviews, mining software repositories, and also social development aspects, such as understanding how developers communicate and understand each other. In the past, I have also worked with error handling and software energy consumption.

Education

2020–Today **Postdoc in Computer Science**, *Eindhoven University of Technology - TU/e*, the main goals of my research are: i) to investigate how the most common reason for confusion, lack of rationale [1], affects the code review process, ii) to analyze the co-evolution of source code and its comments with the aim of investigating the extent to which symptoms of potential quality problems (*e.g.*, source code metrics, or static analysis warnings) could correlate with the introduction of comments admitting such problems, and iii) to investigate how the code review process is related to the introduction and removal of self-admitted technical debt., supervisor: Prof. Alexander Serebrenik.

2019–2020 **Postdoc in Computer Science**, *Federal University of Pernambuco - UFPE*, my research is focused on studying the aspects of confusion in code reviews, supervisor: Prof. Fernando Castor.

2014–2019 **Ph.D. in Computer Science**, *Federal University of Pernambuco - UFPE*, *understanding Confusion in Code Reviews*, supervisors: Prof. Fernando Castor and Prof. Alexander Serebrenik.
During the PhD program, I spent one year and three months working directly with the Prof. Alexander Serebrenik at Eindhoven University of Technology (TU/e) in The Netherlands.

2011–2013 **M.Sc. in Computer Science**, *Federal University of Pernambuco - UFPE*, *An Exploratory Study on Exception Handling Bugs*, supervisor: Prof. Fernando Castor.

2005–2009 **B.Sc. in Computer Science**, *Federal University of Pernambuco - UFPE*.

Experience

Research

Ph.D. student.
The main activities developed during my PhD program are: i) the identification of confusion in code review comments by creating an approach for automatic detection of confusion, ii) understanding the reasons for confusion in code reviews, its impacts, and how developers cope with it, and iii) the identification of communicative intentions in questions asked during code reviews.
My research field is grounded on Empirical Software Engineering, hence, I conducted surveys with developers, manually annotated natural language text, worked with card sorting methodology, worked with NLP and part-of-speech techniques, and experimented machine learning techniques.

M.Sc. student.
During my M.Sc. program I conducted an exploratory study on exception handling bugs by employing two complementary approaches: a survey of developers and an manual analysis of bugs from systems repositories.

B.Sc. student.
During my bachelor, I volunteered in the mentoring program for two years and a half with three different courses.

Program Committee

Jul, 2020 **International Conference on Software Maintenance and Evolution**, *Doctoral Symposium*, ICSME'2020.

Jul, 2020 **Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering**, *Student Research Competition*, ESEC/FSE'2020.

Jul, 2020 **Seminar Series On Advanced Techniques & Tools For Software Evolution**, *SATToSE'2020*.

Sep, 2020 **VIII Workshop on Software Visualization, Evolution and Maintenance**, *VEM'2020*.

Sep, 2020 **XIV Brazilian Symposium on Software Components, Architectures, and Reuse**, *SBCARS'2020*.

Sep, 2019 **XXXIII Brazilian Symposium on Software Engineering**, *Insightful Ideas & Emerging Results Track*, SBES'2019.

Sep, 2019 **VII Workshop on Software Visualization, Evolution and Maintenance**, *VEM'2019*.

Sep, 2019 **XIII Brazilian Symposium on Software Components, Architectures, and Reuse**, *SBCARS'2019*, distinguished reviewer award!.

Aug, 2018 **The 4th International Conference on Technology Trends**, *CITT'2018*.

Nov, 2017 **The 3rd International Conference on Technology Trends**, *CITT'2017*.

Student Volunteer

Oct, 2016 **Systems, Programming, Languages and Applications: Software for Humanity**, *SPLASH'2016*.

Industry

2009–2011 **Java Developer**, *IBM*, Recife, Brazil.
Development of WEB systems for the control of the websites of IBM customers. Technologies used: Java, Struts, Servlets, Java Server Pages - JSP, Java Server Faces - JSF and use of Linux (VI Editor).

2008–2009 **Java Developer**, *E.life Company*, Recife, Brazil.
Development of client-server systems based on WEB with data base. Technologies used: JAVA, CXF e MySQL.

Public Talks

- **Understanding Confusion in Code Reviews - keynote**. *4th International Conference on Technology Trends (CITT 2018)*. Babahoyo, Ecuador. August 29, 2018
- **Confusion Detection in Code Reviews**. *16th edition of the BElgian-NEtherlands software eVOLution symposium (BENEVOL 2017)*. Antwerp, Belgium. December 04, 2017
- **Confusion Detection in Code Reviews**. *56th CREST Open Workshop (COW) - Code Review and Continuous Inspection/Integration*. London, United Kingdom. November 28, 2017

Language Proficiency

Portuguese Mother Language
English Fluent
Spanish Basic

Awards

Best paper! **Confusion in Code Reviews: Reasons, Impacts, and Coping Strategies** (SANER'2019) [1]

Best PhD thesis! My thesis was elected the best of 2019 at the Informatics Center from Federal University of Pernambuco (CIn/UFPE). Title: **Understanding Confusion in Code Reviews**. Available at: `https://felipeebert.github.io/post/phd-2019/phd-2019.pdf`

Distinguished Reviewer Award! **XIII Brazilian Symposium on Software Components, Architectures, and Reuse** (SBCARS'2019)

Publications

[1] F. Ebert, F. Castor, N. Novielli, and A. Serebrenik, "Confusion in code reviews: Reasons, impacts, and coping strategies," in *The 26th International Conference on Software Analysis, Evolution and Reengineering (SANER'2019)*, Feb 2019, pp.

49–60.

[2] F. Ebert and F. Castor and N. Novielli and A. Serebrenik, "Communicative intention in code review questions," in *The 34th IEEE International Conference on Software Maintenance and Evolution (ICSME)*, Sept 2018, pp. 519–523.

[3] F. Ebert, F. Castor, N. Novielli, and A. Serebrenik, "Confusion detection in code reviews," in *The 33th IEEE International Conference on Software Maintenance and Evolution (ICSME)*, Sept 2017, pp. 549–553. [Online]. Available: https://ieeexplore.ieee.org/document/8094460

[4] M. Rebouças, G. Pinto, F. Ebert, W. Torres, A. Serebrenik, and F. Castor, "An empirical study on the usage of the swift programming language," in *The 23rd IEEE International Conference on Software Analysis, Evolution, and Reengineering (SANER)*, vol. 1, March 2016, pp. 634–638. [Online]. Available: https://ieeexplore.ieee.org/document/7476687

[5] F. Ebert, F. Castor, and A. Serebrenik, "An exploratory study on exception handling bugs in java programs," *Journal of Systems and Software*, vol. 106, no. C, pp. 82–101, Aug. 2015. [Online]. Available: http://dx.doi.org/10.1016/j.jss.2015.04.066

[6] I. Moura, G. Pinto, F. Ebert, and F. Castor, "Mining energy-aware commits," in *The 12th IEEE/ACM Working Conference on Mining Software Repositories (MSR)*, May 2015, pp. 56–67. [Online]. Available: https://ieeexplore.ieee.org/document/7180067

[7] F. Ebert and F. Castor, "A study on developers' perceptions about exception handling bugs," in *The 29th IEEE International Conference on Software Maintenance (ICSM)*, Sept 2013, pp. 448–451. [Online]. Available: https://ieeexplore.ieee.org/document/6676929

[8] F. Ebert, F. Castor, and A. Serebrenik, "A reflection on 'An exploratory study on exception handling bugs in java programs'," in *2020 IEEE 27th International Conference on Software Analysis, Evolution and Reengineering (SANER)*, 2020, pp. 552–556.

[9] V. Oliveira, L. Teixeira, and F. Ebert, "On the adoption of kotlin on android development: A triangulation study," in *2020 IEEE 27th International Conference on Software Analysis, Evolution and Reengineering (SANER)*, 2020, pp. 206–216.