

# Luca Pascarella

Delft University of Technology

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## DOCTORAL RESEARCH

### “Augmented fine-grained defect prediction for code review”

My research focuses on predictive analytics for code review. I evaluated off-the-shelf defect prediction models in the realistic context of code review. I proposed two alternatives aimed at maximizing the effectiveness while reducing the prediction granularity. I also assessed the effectiveness of using alternative software metrics as measurable properties of software in machine learning models. Finally, I studied to what extent defect prediction can meet reviewers’ needs during a code review.

## EDUCATION

- 2016 – NOW **Doctor of Philosophy**  
Computer Science  
*TU Delft, The Netherlands*
- 2012 – 2015 **Master of Science**  
110/110 CUM LAUDE  
Software Engineering  
*University of Sannio, Italy*
- 2007 – 2011 **Bachelor of Science**  
Software Engineering  
*University of Sannio, Italy*

## RESEARCH INTEREST

Every day software development presents new challenges, and software engineers are called to respond with creative solutions besides improving current ones. My broader vision is to take advantage of the amount of data retrieved by mining software development processes to delegate trivial tasks to machines and turn human-centered activities into data-driven tools.

## PUBLICATIONS

I contributed with 13 scientific publications in top peer-reviewed journals and conferences on software engineering, including:

- “Classifying code comments in Java software systems”  
*Journal of Empirical Software Engineering (EMSE)* 2019
- “Fine-Grained Just-In-Time Defect Prediction”  
*Journal of Systems and Software (JSS)* 2018
- “Information Needs in Contemporary Code Review”  
*Computer-Supported Cooperative Work and Social Computing* 2018
- “How Is Video Game Development Different from Software Development in Open Source?”  
*Mining Software Repositories (MSR)* 2018
- “Re-evaluating Method-Level Bug Prediction”  
*Software Analysis, Evolution and Reengineering (SANER)* 2018
- “Classifying code comments in Java open-source software systems”  
*Mining Software Repositories (MSR)* 2017

## AWARDS

- 2018 **Best Paper Award Honorable Mention**  
*ACM Conference CSCW-2018*
- 2018 **ACM International Travel**  
*Student Research Competition MobileSoft-2018*
- 2017 **ACM SIGSOFT Distinguished Paper Award**  
*Mining Software Repository MSR-2017*

## PROFESSIONAL APPOINTMENTS

*Software Improvement Group* The Netherlands  
**Research Intern** Jan 2018 – Mar 2019

I focused on: (1) understanding information needs in code review to design intelligent tools and (2) classifying code comments to improve defect prediction performance.

*IMDEA Software Institute* Spain  
**Research Visitor** May 2016 – Aug 2016

I evaluated a novel method for catching non-essential code changes in version controls by comparing software invariants before and after a code change to filter out trivial changes while performing system maintenance.

*LP Systems* Italy  
**Entrepreneur** Jan 2010 – Dec 2012

I incorporated and led a vibrant company specialized in designing Systems-On-Module for embedded Linux systems to reduce the development time of new projects.

*Elettronica IN* Italy  
**Magazine Writer** 2008 – 2017

As an occasional magazine writer, I loved to share my knowledge to teach new generations. I contributed with 22 full-projects for the top Italian magazine of applied electronics.

*High School L. Palmieri* Italy  
**Teacher** 2007 – 2009

I taught C/C++ languages at the Design and Crafts school. I also proudly advised a class of students during their summer internship and prepared them for the final exam.

## SKILLS

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|-----------------------|--|
| ORAL                  | Presenting at international conferences                                |
| POSTERS               | MobileSoft-2018  |
| GUEST LECTURES        | Lecturer for Software Analytics<br>Lecturer for Software Dependability |
| PROGRAMMING LANGUAGES | C, C++, Java, Python, R, Javascript<br>PHP, and MySQL                  |
| HARDWARE DESIGN       | Schematic capture, PCB routing, and design integration                 |

## GRANTS

- |                   |  |
|-------------------|--|
| TRAVEL            | ACM student research competition                       |
| ERASMUS PLACEMENT | ERASMUS-2013 project<br>Supports for internship abroad |