

# Luca Pascarella

*Curriculum Vitae et Studiorum*



## About

I am an Italian software engineer with a background in both software development and hardware design. In 2011, I started my professional career graduating in software engineering at the *University of Sannio*. In the meantime, I created the *LP Systems* a company specialized in electronic circuits prototyping. Later during my entrepreneur carrier, I got a Master degree *cum laude* in software engineering. In 2016, I started a Ph.D. in computer science at *The Delft University of Technology*. In 2018, I pursued a research internship at the *Software Improvement Group (SIG)*. Currently, I am working hard to defend my Ph.D. and create a new company in *The Netherlands*.

## Research

With my research, I would bring evidence to both commercial and free software systems. At this aim, I am focusing on the quality of the product and its evolution to lead a fast decision-making process, especially in continuous deployment contexts. More in deep, I observed how code changes affect software evolution and how the natural language used in code comments plays a nontrivial role in software development. I firstly characterized code comments by studying their meanings, then, I investigated how the software documentation written by humans creates mismatches in dynamically typed programming languages. This evidence suggests the importance of spending effort on defect prediction techniques. Results show that despite latest research progress, defect prediction is not ready for final use. Defect prediction models need a fine-grained optimization to encourage the adoption in code review tools. The ultimate goal of my research wants to investigate the benefits of a fine-grained defect prediction model into modern code review tools.

## Contacts

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## Publication indexes

<http://Google Scholar>  
<http://DBLP>

## Languages

Italian: native speaker  
English: good

## Highlights

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|--------------------|--|------------------------------------|
| 01.2016<br>now     | <b>Ph.D.</b> in Computer Science<br>Thesis subject: Data-driven defect prediction in software development.<br>Supervisor: <i>Prof. Dr. Alberto Bacchelli</i>   | <i>TU Delft, The Netherlands</i>   |
| 01.2018<br>12.2018 | <b>Internship</b> (research)<br>Software Improvement Group (SIG)<br>Research subject: Augment user appeal for review tools with defect prediction.<br>Supervisor: <i>Dr. Magiel Bruntink</i>                                     | <i>Amsterdam, The Netherlands</i>  |
| 09.2012<br>05.2015 | <b>M.Sc.</b> in Software Engineering<br>Thesis subject: Analysis of video games software development processes.<br>Final grade: <i>110/110 cum laude</i><br>Supervisor: <i>Prof. Dr. Massimiliano Di Penta</i>                   | <i>University of Sannio, Italy</i> |
| 01.2011<br>12.2012 | <b>Entrepreneur</b><br>Founder of the LP Systems   | <i>Rome, Italy</i>                 |
| 09.2007<br>05.2011 | <b>B.Sc.</b> in Software Engineering<br>Thesis subject: Design of an analog to digital converter with low distortion.<br>Final grade: <i>103/110</i><br>Supervisors: <i>Prof. Dr. Sergio Rapuano</i> and <i>Dr. Luca De Vito</i> | <i>University of Sannio, Italy</i> |

# Education and Training

<i>Qualification</i>	<b>Computer science. Doctor of Philosophy</b>
<i>Period</i>	2016 - now
<i>Organization</i>	The Delft University of Technology, The Netherlands
<i>Topic</i>	Data-driven defect prediction in software development for Modern Code Review tools.
<i>Supervisor</i>	Prof. Dr. Alberto Bacchelli
<i>Qualification</i>	<b>Software Engineering. Master's degree.</b>
<i>Thesis</i>	"Quantitative and qualitative analysis of the processes of development of video games vs. traditional software in open source"
<i>Achievement date</i>	2015
<i>Organization</i>	The University of Sannio, Italy
<i>Supervisor</i>	Prof. Dr. Massimiliano Di Penta
<i>Final grade</i>	110/110 cum laude
<i>Qualification</i>	<b>Software Engineering. Bachelor's degree.</b>
<i>Thesis</i>	"Hardware and software design and characterization of a multifunction data acquisition system with low distortion"
<i>Achievement date</i>	2011
<i>Organization</i>	The University of Sannio, Italy
<i>Supervisor</i>	Prof. Dr. Sergio Rapuano and Dr. Luca De Vito
<i>Final grade</i>	103/110

# Scientific Research

<i>JSS - 2018</i> <i>Journal</i>	"Fine-Grained Just-In-Time Defect Prediction"
<i>CSCW - 2018</i> <i>Jersey City, USA</i>	"Information Needs in Contemporary Code Review" <b>Best Paper Award Honorable Mention</b>
<i>MOBILESoft - 2018</i> <i>Gothenburg, Sweden</i>	"Classifying code comments in Java Mobile Applications"
<i>MSR - 2018</i> <i>Gothenburg, Sweden</i>	"How Is Video Game Development Different from Software Development in Open Source?"
<i>MSR - 2018</i> <i>Gothenburg, Sweden</i>	"A Graph-based Dataset of Commit History of Real-World Android apps"
<i>MOBILESoft - 2018</i> <i>Gothenburg, Sweden</i>	"Self-Reported Activities of Android Developers"
<i>SANER - 2018</i> <i>Campobasso, Italy</i>	"Re-evaluating Method-Level Bug Prediction"
<i>MaLTeSQuE - 2018</i> <i>Campobasso, Italy</i>	"Investigating Type Declaration Mismatches in Python"
<i>MSR - 2017</i> <i>Buenos Aires, Argentina</i>	"Classifying code comments in Java open-source software systems" <b>ACM SIGSOFT Distinguished Paper Award</b>

# Italian Magazines

<i>Elettronica In N217</i> July/August 2017	<b>"Ethernet Relè board"</b> An Ethernet-based relays electronic board.	<i>Commercialized product</i> Code: FT1333M
<i>Elettronica In N207</i> July/August 2016	<b>"Wi-Fi audio Broadcaster"</b> A Wi-Fi based audio broadcaster electronic board.	<i>Commercialized product</i> Code: FT1271M
<i>Elettronica In N196</i> June 2015	<b>"Ethernet Broadcaster parte seconda"</b> An Ethernet-based audio broadcaster electronic board. Second part.	<i>Commercialized product</i> Code: FT1185M
<i>Elettronica In N195</i> May 2015	<b>"Ethernet Broadcaster parte prima"</b> An Ethernet-based audio broadcaster electronic board. First part.	
<i>Elettronica In N190</i> November 2014	<b>"Embedded MP3 Player &amp; Recorder. Il firmware"</b> Embedded MP3 media player and recorder. The firmware.	<i>Commercialized product</i> Code: FT1129M
<i>Elettronica In N189</i> October 2014	<b>"Embedded MP3 Player &amp; Recorder"</b> Embedded MP3 media player and recorder. The electronic part.	
<i>Elettronica In N185</i> April 2014	<b>"Ricevitore FM con lettore MP3"</b> FM radio receiver with an MP3 media player.	
<i>Elettronica In N167</i> June 2012	<b>"Lettore RFID con SD Card ed I<sup>2</sup>C 2"</b> RFID reader with SD card over I <sup>2</sup> C bus. Second part.	
<i>Elettronica In N166</i> May 2012	<b>"Lettore RFID con SD Card ed I<sup>2</sup>C 1"</b> RFID reader with SD card over I <sup>2</sup> C bus. First part.	
<i>Elettronica In N159</i> September 2011	<b>"Regolatore di carica per Aussie Zero 2"</b> Power charger for Aussie Zero a solar car. Second part.	
<i>Elettronica In N158</i> July/August 2011	<b>"Regolatore di carica per Aussie Zero 1"</b> Power charger for Aussie Zero a solar car. First part.	
<i>Elettronica In N150</i> October 2010	<b>"Regolatore di carica per pannelli fotovoltaici 2"</b> Photovoltaic solar power charger. Second part.	
<i>Elettronica In N149</i> August/September 2010	<b>"Regolatore di carica per pannelli fotovoltaici 1"</b> Photovoltaic solar power charger. First part.	
<i>Elettronica In N149</i> August/September 2010	<b>"Il VOIP senza il PC 2"</b> VoIP without a computer,. Second part.	
<i>Elettronica In N148</i> July 2010	<b>"Il VOIP senza il PC 1"</b> VoIP without a computer. First part.	
<i>Elettronica In N146</i> April 2010	<b>"Lettore MP3 Indirizzabile"</b> An addressable MP3 media player. <a href="http://open-electronics.org/embedded-mp3-module">open-electronics.org/embedded-mp3-module</a>	<i>Commercialized product</i> Code: FT862M
<i>Elettronica In N145</i> March 2010	<b>"Trasmettiamo l'audio su rete Ethernet 2"</b> How to use the Ethernet network for audio transmission. First part.	<i>Commercialized product</i> Code: FT859M
<i>Elettronica In N144</i> February 2010	<b>"Trasmettiamo l'audio su rete Ethernet 1"</b> How to use the Ethernet network for audio transmission. First part.	
<i>Elettronica In N141</i> October 2009	<b>"Avvisatore Autovelox"</b> Speed limits advisor.	
<i>Elettronica In N138</i> June 2009	<b>"Registrare Temperatura con DTPIC18F67J50"</b> Temperature logger with the DTPIC18F67J50 demoboard.	
<i>Elettronica In N137</i> May 2009	<b>"Alla scoperta della demoboard DTPIC18F67J50"</b> Discovering the DTPIC18F67J50 demoboard.	
<i>Elettronica In N134</i> February 2009	<b>"Lettore MP3 universale"</b> Universal MP3 media player.	
<i>IoProgrammo</i> December 2008	<b>"Scaricare da Emule senza il PC"</b> Downloading with eMule but without a computer.	

# Work Experiences

- 2014 - now      **Futura Group** Srl – Varese, Italy  
*Royalties for commercialized products*  
Activity      Hardware and software designer of commercial products.  
Skills      C/C++, JavaScript, HTML, oscilloscope, data logger, spectrum analyzer, rework station, etc.
- Mar-Jul 2014      **Beneslan** Association – Benevento, Italy  
Activity      Collaboration for the design of a web application.  
Skills      PHP, Yii Framework, Agile SW development, etc.
- Mar 2014      **VBE Telecomunicazioni** – Florence, Italy  
Activity      Collaboration for a software customization of the FT859M. A radio backup system.  
Skills      C, TCP/IP, USB, audio codecs, in-circuit debugging, etc.
- 2012 - 2013      **Bruitparif** – Paris, France  
Activity      Design of an electronic device for monitoring the ambient noise for a research study.  
Skills      TCP/IP, audio codecs, encryption, RS485 CE and FCC laws, etc.
- 2010 - 2012      **ACME Systems** Srl – Ladispoli (Rome), Italy  
Activity      Collaboration for designing electronic circuits and Linux-based software.  
Skills      C, C++, Java, Python, Linux modules, embedded systems, Altium Designer, etc.
- May 2012      **Ondarete** Sas Di Mora A. & C. – Novara, Italy  
Activity      Software customization of the FT859M module.  
Skills      C, TCP/IP, USB, in-circuit debugging, etc.
- Jan 2012      **MESI** of David Milligan - Georgia, USA  
Activity      Software customization of the FT862M module.  
Skills      C, File Systems, in-circuit debugging, etc.
- 2010 - 2012      **LPSystems**.eu - Rome, Italy  
*Founder of LPSystems*  
Activity      Online commercialization of TCP/IP based products.  
Skills      Microcontrollers, C/C++, Java, etc.
- 2010 - 2011      **ESMOLO** Ltd – Switzerland  
Activity      Collaboration for designing a photovoltaic system against vandalism, fire, theft, etc.  
Skills      Microcontrollers, C/C++, Java, wireless networks, USB, etc.
- November 2009      **ELSAG DATAMAT** Spa – Genoa, Italy  
Activity      Collaboration for customizing the SMS FOX BOX designed by ACME Systems.  
Skills      PHP, SQLite, C, and HTML, etc.
- June 2009      **PROFEEL** Srl – Sora (Frosinone), Italy  
Activity      Collaboration for designing an electronic board for industrial motors.  
Skills      C/C++, DSP microcontrollers, motors, Altium Designer, etc.
- June 2008      **ACME Systems** Srl – Ladispoli (Rome), Italy  
Activity      Design of the TuxMule and TuxTorrent. A FoxBoard LX832 based project.  
Skills      C/C++, TCP/IP, embedded Linux systems, etc.
- 2007 - 2009      **SOFSIS** Srl – Benevento, Italy  
Activity      Teaching computer basics and the ECDL.
- 2007 - 2010      **High school L. Palmieri** – Benevento, Italy  
*Vocational school of Industry and Handicrafts*  
Activity      Teaching assembler and C languages for PIC microcontrollers.
- 2005 - 2009      **DRF Elettronica** sas – Benevento, Italy  
Activity      Internship in a service center for electrical domestic appliances.

# Acquired Skills

## Software Skills

Languages	C, C++, Java, Python, JavaScript, PHP, Assembler (PIC and Intel), etc.
DBMS	MySQL, SQLite, etc.
Networks	TCP/IP, Ethernet, Wi-Fi, Bluetooth, Mi-Wi, ZigBee, Lo-Ra; Major protocols and techniques.
Security in Network	Firewall with Iptables on Linux Embedded. Major protocols and techniques.
Web Servers	Apache, Lighttpd, IIS, Tomcat, HTTP2 for Embedded systems.
Tools	Eclipse, Netbeans, MPLAB-X, Altium Designer, etc.
Debugging	GDB Debugger for Linux machines, Eclipse/IntelliJ debuggers, In-circuit debugger tools for embedded systems, JTAG, ICSP, and hardware debugger in general.

## Electronic Skills

Technical	Ability to repair faults in generic electrical and electronic devices. Excellent manual skill for hand soldering and rework of surface mount components.
Engineering	Multi-year experience with design of circuit diagrams and printed circuit boards (PCB) for analog and digital systems. Practical experience with both <i>Eagle</i> and <i>Altium Designer</i> . Knowledge of CE and FCC laws.
Tools	Multimeter, capacitance meter, frequency meter, oscilloscope, logic analyzer, field strength meter (TV and SAT), function generator, rework station, etc.