Curriculum Vitae

Luís Cruz

June 2020

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1 Personal Information

Full Name Luís Miranda da Cruz

E-mail l.cruz@tudelft.nl

Nationality Portuguese

Date of Birth 15/01/1989

Country of Residence Netherlands

Orcid 0000-0002-1615-355X

Current Job Research associate at TU Delft; Scientific Coordinator at AI for Fintech Research.

2 Education

MAP-i Doctoral Programme in Computer Science PhD Candidate. University of Porto; July 2019.
Thesis: *Tools and Techniques for Energy-Efficient Mobile Application Development.*
Advisor: Prof. Rui Abreu.

Integrated Master in Informatics and Computing Engineering Faculdade de Engenharia da Universidade do Porto (FEUP); September 2006 – July 2011.
Final grade: 17 out of 20 (A on the European Grading Scale).
M.Sc. thesis: *Humanoid Robot Nao: Developing Behaviours for Soccer Humanoid Robots.*
Advisor: Prof. Luis Paulo Reis.

Science Major Escola Secundária de Barcelinhos (High School); September 2003 – July 2006.
Final grade: 18 out of 20 (A on the European Grading Scale).

3 Work Experience

★ **Assistant Professor** Delft University of Technology, The Netherlands; **November 2020 – Present**.

★ **Scientific Coordinator** AI for Fintech Research, The Netherlands; **January 2020 – Present**.

Postdoctoral Researcher Delft University of Technology, The Netherlands; **September 2019 – October 2020**.

Guest Lecturer Instituto Superior Técnico, Portugal; **June 2018 – Present**.
Teaching Software Engineering in the Software and Information Systems Engineering (SISE) program.

Invited Lecture Delft University of Technology, The Netherlands; **March, 2019**.
Software Sustainability – Software Architecture.

Invited Lecture Vrije Universiteit Amsterdam, The Netherlands; **October, 2019**.
Course on Empirical Software Engineering for Green Computing – GreenLab.

Visiting Researcher Monash University, Australia; **September 2018 – December 2018**.

Researcher INESC-ID, Lisbon, Portugal; **January 2017 – July 2019**.

Researcher GSL GreenLab, INESC-TEC, Porto, Portugal; **2016–2019**.

Assistant Lecturer Instituto Superior Técnico (IST), University of Lisbon, Portugal; **2017/2018**.
Lectured the Software Engineering courses.

Research Assistant Palo Alto Research Center (Xerox PARC), California, USA; **May 2015 – December 2015**.
Worked in machine learning and mobile computing research projects.

Assistant Lecturer FEUP, University of Porto, Portugal; **2013/14 and 2014/15**.
Lectured the unit course Software Development Laboratory (LDSO).

Software architect and Web developer Tecla Colorida, Lda., Porto, Portugal; **March 2012 – April 2013**.

Software Engineer *Escolinhas Criativas* consortium, University of Porto, Portugal; **September 2011 – March 2012**.
Developed a social media platform.

Researcher FEUP, University of Porto, Portugal; **August – September 2010**.
Designing an aspect-oriented language in the scope of the AMADEUS project – Aspects and Compiler Optimizations for Matlab System Development.

Teaching Assistant FEUP, University of Porto, Portugal; **2009/2010**. Assisted teaching activities for Computer Graphics courses.

4 Relevant Training

- Completed Data Analyst Nanodegree by Udacity; co-created by Facebook, MongoDB and Zipfian Academy.

- Completed the CS190.1x: Scalable Machine Learning online course offered by BerkeleyX.

- Attended the Second NESUS Winter School 2017 on convergence of Big Data with HPC and Exascale systems.

- Attended the Learning Analytics Summer Institutes Local Madrid (LASI-local Madrid 2014).

- Attended the Multidisciplinary Summer School on Design as Inquiry 2011, in Kiel, Germany.

5 Honors and Awards

Best Presentation Award BENEVOL, The 18th Belgium-Netherlands Software Evolution Workshop, 2019.

Best Paper Award CIbSE XXI Ibero-American Conference on Software Engineering, 2018.

Academic Excellence Award Faculdade de Engenharia da Universidade do Porto, 2008.

6 Students Supervision

Luís has supervised/is supervising the following students:

Ph.D. student – Arumoy Shome (TU Delft) Engineering Artificial Intelligence in the Wild, ongoing.

Bart van Oort (TU Delft) Engineering Best Practices for Machine Learning projects, ongoing.

Yuanhao Xie (TU Delft) AI Model Lifecycle Management: Systematic Mapping Study and Solution for AI Democratisation, November 2020.

Ricardo Morais (IST) Automatic refactoring for energy efficiency in continuous integration pipelines, September 2020.

Mark Haakman (TU Delft) Studying the Machine Learning Lifecycle and Improving Code Quality of Machine Learning Applications, July 2020.

Pedro Gomes (IST) Detecting User Sessions and Inferring User Satisfaction in the Context of a Search Engine for Legislative Contents, December 2019.

7 Scientific Committees

WAIN 2021 1st Workshop on AI Engineering – Software Engineering for AI – WAIN'21@ICSE'21 (Program Committee)

MobileSoft 2021 8th IEEE/ACM International Conference on Mobile Software Engineering and Systems (Program Committee)

ISEC 2021 14th Innovations in Software Engineering Conference (Program Committee)

SUSTAINSE 2020 1st International Workshop on Sustainable Software Engineering (Program Committee)

ICSEA 2020 The Fifteenth International Conference on Software Engineering Advances (Program Committee)

MaLTeSQuE 2020 Workshop on Machine Learning Techniques for Software Quality Evolution (Program Committee)

ESEC/FSE 2020 ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (Artifact Evaluation Committee)

ICSME 2020 36th IEEE International Conference on Software Maintenance and Evolution (Program Committee)

EASEAI 2020 2nd International Workshop on Education through Advanced Software Engineering and Artificial Intelligence (Program Committee)

SEAA 2020 Euromicro Conference on Software Engineering and Advanced Applications 2020 (Program Committee)

ISEC 2020 13th Innovations in Software Engineering Conference (Program Committee)

MobileSoft 2020 7th IEEE/ACM International Conference on Mobile Software Engineering and Systems (Publicity Co-Chair; Program Committee)

ICST 2020 International Conference on Software Testing and Validation, 2020 (Web Chair; Program Committee)

ISMIR2019 International Society for Music Information Retrieval (Organisation)

FutureOfComputing 2019 2nd UPTEC School on the Future of Computing, 2019 (Invited Speaker)

MobileSoft 2019 6th IEEE/ACM International Conference on Mobile Software Engineering and Systems (Tool Demos & Mobile Apps Co-Chair; Session Chair)

DELix 2019 Lisbon Winter School on Data Science and Engineering, 2019 (Invited Speaker)

POPL 2019 46th ACM SIGPLAN Symposium on Principles of Programming Languages (Student Volunteer)

QRS 2018 IEEE International Conference on Software Quality, Reliability & Security, 2018 (Local Chair)

DELix 2018 Lisbon Winter School on Data Science and Engineering, 2018 (Invited Speaker)

MobileSoft 2018 5th IEEE/ACM International Conference on Mobile Software Engineering and Systems (Publicity Co-Chair; Session Chair)

CIbSE 2018 21st Conferencia Iberoamericana de Software Engineering, 2018 (Student Volunteer)

ICST 2017 International Conference on Software Testing and Validation, 2017 (Student Volunteer)

8 Selected Publications

[1] Daniel Feitosa, Luís Cruz, Rui Abreu, João Paulo Fernandes, Marco Couto, and João Saraiva. Patterns and energy consumption: Design, implementation, studies and stories. In Mario Piattini Coral Calero, Marian Moraga, editor, *Software Sustainability*. Springer, (to appear).

[2] Luis Cruz and Rui Abreu. Catalog of energy patterns for mobile applications. *Empirical Software Engineering*, 2019.

[3] Luis Cruz and Rui Abreu. EMaaS: Energy measurements as a service for mobile applications. In *ICSE (NIER)*, 2019.

[4] Luis Cruz and Rui Abreu. Improving energy efficiency through automatic refactoring. In *Journal of Software Engineering Research and Development*, 2019.

[5] Luis Cruz and Rui Abreu. On the energy footprint of mobile testing frameworks. *IEEE Transactions on Software Engineering*, 2019.

[6] Luis Cruz, Rui Abreu, John Grundy, Li Li, and Xin Xia. Do energy-oriented changes hinder maintainability? In *ICSME*, 2019.

[7] Luis Cruz, Rui Abreu, and David Lo. To the attention of mobile software developers: Guess what, test your app! *Empirical Software Engineering*, 2019.

[8] Pedro Gomes, Bruno Martins, and Luís Cruz. Segmenting user sessions in search engine query logs leveraging word embeddings. In *International Conference on Theory and Practice of Digital Libraries*, pages 185–199. Springer, 2019.

[9] Luis Cruz and Rui Abreu. Measuring the energy footprint of mobile testing frameworks. In *Proceedings of the 40th International Conference on Software Engineering: Companion Proceeedings, ICSE*, pages 400–401, 2018.

[10] Luis Cruz and Rui Abreu. Using automatic refactoring to improve energy efficiency of android apps. In *XXI Ibero-American Conference on Software Engineering (CIbSE, Best Paper Award)*, 2018.

[11] Luis Cruz and Rui Abreu. Performance-based guidelines for energy efficient mobile applications. In *IEEE/ACM International Conference on Mobile Software Engineering and Systems, MobileSoft*, pages 46–57, 2017.

[12] Luis Cruz, Rui Abreu, and Jean-Noël Rouvignac. Leafactor: Improving energy efficiency of Android apps via automatic refactoring. In *Proceedings of the 4th International Conference on Mobile Software Engineering and Systems*, MOBILESoft '17, pages 205–206. IEEE Press, 2017.

[13] Luis Cruz, Jonathan Rubin, Rui Abreu, Shane Ahern, Hoda Eldardiry, and Daniel G Bobrow. A wearable and mobile intervention delivery system for individuals with panic disorder. In *Proceedings of the 14th International Conference on Mobile and Ubiquitous Multimedia*, pages 175–182. ACM, 2015.

[14] Pedro Strecht, Luis Cruz, Carlos Soares, João Mendes-Moreira, and Rui Abreu. A comparative study of regression and classification algorithms for modelling students' academic performance. In *Educational Data Mining 2015*, 2015.

[15] Luis Cruz, Luis Paulo Reis, Nuno Lau, and Armando Sousa. Optimization approach for the development of humanoid robots' behaviors. In *Ibero-American Conference on Artificial Intelligence*, pages 491–500. Springer, Berlin, Heidelberg, 2012.

[16] Luis Cruz, Luis Paulo Reis, and Luis Rei. Generic optimization of humanoid robots' behaviours. In *15th Portuguese Conference on Artificial Intelligence, EPIA*, pages 385–397. Lisbon, 2011.