



## Curriculum Vitae

# RUI ANTÓNIO RAMADA RUA

Rui António Ramada Rua. Concluiu o(a) Mestrado integrado em Engenharia Informática em 2015/09/28 pelo(a) Universidade do Minho. Frequenta o(a) Doutoramento em MAP-i pelo(a) Universidade do Minho desde 2018/09/30. É Investigador no(a) Instituto de Engenharia de Sistemas e Computadores Tecnologia e Ciência Center for Research in Advanced Computing Systems e Assistente Convidado no(a) Universidade do Minho. Participou em 2 evento(s). Recebeu 1 prémio(s) e/ou homenagens. Participa e/ou participou como Bolseiro de Investigação em 1 projeto(s) e Investigador em 2 projeto(s). Atua na(s) área(s) de Ciências da Engenharia e Tecnologias com ênfase em Engenharia Eletrotécnica, Eletrónica e Informática e Ciências Exatas com ênfase em Ciências da Computação e da Informação. Nas suas atividades profissionais interagiu com 10 colaborador(es) em coautorias de trabalhos científicos. No seu currículo Ciência Vitae os termos mais frequentes na contextualização da produção científica, tecnológica e artístico-cultural são: Green Computing; Functional Programming; Engenharia de Software; Mobile; Energy Consumption; .

## Identification

### Personal identification

Full name

RUI ANTÓNIO RAMADA RUA

Gender

Male

Birth date

1995/02/05

### Citation names

Rua, Rui

### Author identifiers

Ciência ID

D314-AB94-034B

ORCID iD

[0000-0003-2979-0635](https://orcid.org/0000-0003-2979-0635)

Google Scholar ID

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Scopus Author Id

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### Email addresses

[rui.a.rua@inesctec.pt](mailto:rui.a.rua@inesctec.pt) (Professional)

[rui.rrua@gmail.com](mailto:rui.rrua@gmail.com) (Personal)

### Telephones

Mobile phone

937120806 (Personal)

## Knowledge fields

Engineering and Technology - Electrotechnical Engineering, Electronics and Informatics  
Exact Sciences - Computer and Information Sciences

## Languages

Language	Speaking	Reading	Writing	Listening	Peer-review
Portuguese (Mother tongue)					
English	Intermediate (B1)	Intermediate (B1)	Intermediate (B1)	Intermediate (B1)	Intermediate (B1)
Spanish; Castilian	Beginner (A1)	Beginner (A1)	Beginner (A1)	Beginner (A1)	Beginner (A1)
French	Beginner (A1)	Beginner (A1)	Beginner (A1)	Beginner (A1)	Beginner (A1)

## Education

	Degree	Classification
2018/09/30 - 2024 Concluded	MAP-i: MAP Doctoral Program in Computer Science (Doctor of Philosophy) Major in Computer Science	
	Universidade do Minho, Portugal <i>"Green Software in the Large: Energy-driven Techniques, Tools and Repositories"</i> (THESIS/DISSERTATION)	
2013 - 2018/09/28 Concluded	Informatics Engineering (Intergrated MSc) (Master) Major in Informatics Engineering	
	Universidade do Minho, Portugal <i>"GreenSource: Repository tailored for GreenSoftware Analysis"</i> (THESIS/DISSERTATION)	

## Affiliation

### Science

	Category Host institution/organization	Employer
2019/01/01 - Current	Researcher (Research)	Instituto de Engenharia de Sistemas e Computadores Tecnologia e Ciência Center for Research in Advanced Computing Systems, Portugal

2022/09 - 2022/12	Visiting Researcher (Research) Kokuritsu Johogaku Kenkyujo, Japan	Kokuritsu Johogaku Kenkyujo, Japan
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## Teaching in Higher Education

	Category Host institution/organization	Employer
2019/02/24 - 2024/08/24	Invited Assistant (University Teacher) Universidade do Minho, Portugal	Universidade do Minho, Portugal

## Projects

### Grant

	Designation	Funders
2019/10/01 - Current	Green Software in the Large: Energy-driven Techniques, Tools and Repositories SFRH/BD/146624/2019  PhD Student Fellow HASLab/INESCTEC, Portugal	Fundação para a Ciência e a Tecnologia, Portugal  Ongoing
2019/01/01 - 2019/07/01	INESC TEC - UID/EEA/50014/2019 UID/EEA/50014/2019  Researcher HASLab/INESCTEC, Portugal	Ongoing
2017/10 - 2018/06	Green Software Lab: Green Computing as an Engineering Discipline (FCT) PTDC/EEI-ESS/5341/2014 (POCI-01-0145-FEDER-016718)  Researcher HASLab/INESCTEC, Portugal	Ongoing
2017/02 - 2017/05	Green Software Lab: Green Computing as an Engineering Discipline (FCT) <a href="#">PTDC/EEI-ESS/5341/2014</a>  Research Fellow HASLab/INESCTEC, Portugal	Associação para a Inovação e Desenvolvimento da FCT, Portugal

### Contract

	Designation	Funders
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2022/09/17 - 2022/12/19

Bitcoin Market Prediction  
 NII International Internship Program  
 PhD Student Fellow

Concluded

## Outputs

### Publications

Book chapter	1	Couto, Marco; João Saraiva. "Energy Debt: Foundations, techniques and Tools". In <i>Lecture Notes in Computer Science 2023</i> . 2022. Published
	2	Rua, Rui; Fernandes, Joao; Pereira, Rui; Ribeiro, Francisco; Macedo, José; Saraiva, João; Cunha, Jácome. "Compilers going Green - An empirical evaluation of functional language performance". In <i>Lecture Notes in Computer Science 2020</i> . 2020. Accepted
Conference paper	1	Rua, Rui; João Saraiva. "Greenspecting Android Cryptographic Primitives: a multi-objective analysis". Paper presented in <i>International Conference on Software Engineering, 2024</i> . Submitted
	2	Rua, Rui; João Saraiva. "PyAnaDroid: A fully-customizable execution pipeline for benchmarking Android Applications". Paper presented in <i>International Conference on Software Maintenance and Evolution (ICSME 2023), Bogotá, 2023</i> . Accepted
	3	Rua, Rui; João Saraiva. "E-MANAFA: Energy Monitoring and ANALysis tool For Android". Paper presented in <i>The 5th International Workshop on Advances in Mobile App Analysis (A-Mobile), Ann Arbor, Michigan, 2022</i> . Accepted
	4	"Energy Efficiency of Web Browsers in the Android Ecosystem". Paper presented in <i>The 8th International Conference on ICT for Sustainability, 2022</i> . Accepted
	5	Rua, R; Fraga, T; Couto, M; Saraiva, J. "Greenspecting Android virtual keyboards". 2020. 10.1145/3387905.3388600
	6	Rua, R; Couto, M; Pinto, A; Cunha, J; Saraiva, J. "Towards using memoization for saving energy in android". 2019.
	7	Rua, R; Couto, M; Saraiva, J. "GreenSource: A large-scale collection of android code, tests and energy metrics". 2019. 10.1109/msr.2019.00035

- 8 Macedo, José; Ribeiro, Francisco; Rua, Rui; Couto, Marco; Cunha, Jácome; Fernandes, J.P.; Saraiva, João; Pereira, Rui. "Functional Going Green: An Empirical Evaluation of Functional Languages Performance". Paper presented in *3COWS Winter School, Kosice*, 2018.  
Submitted
- 9 Pereira, R; Couto, M; Ribeiro, F; Rua, R; Saraiva, J. "Energyware analysis". 2018.
- 10 Couto, M; Pereira, R; Ribeiro, F; Rua, R; Saraiva, J. "Towards a Green Ranking for Programming Languages". 2017.  
10.1145/3125374.3125382
- 11 Pereira, R; Couto, M; Ribeiro, F; Rua, R; Cunha, J; Fernandes, JP; Saraiva, J. "Energy efficiency across programming languages: how do energy, time, and memory relate?". 2017.  
10.1145/3136014.3136031

Conference poster

- 1 "Green Software in the Large: Energy-driven Techniques, Tools and Repositories". Paper presented in *The 8th International Conference on ICT for Sustainability*, 2022.

Journal article

- 1 Joao Saraiva. "A large-scale empirical study on mobile performance: Energy, Run-time and Memory". *Empirical Software Engineering (EMSE)* (2023):  
Accepted
- 2 Rua, Rui. "Ranking Programming Languages by Energy Efficiency". *Science of Computer Programming* 205 (2021): <https://doi.org/10.1016/j.scico.2021.102609>.  
Accepted
- 3 Pereira, R; Couto, M; Ribeiro, F; Rua, R; Cunha, J; Fernandes, JP; Saraiva, J. "Ranking programming languages by energy efficiency". *SCIENCE OF COMPUTER PROGRAMMING* (2021):  
10.1016/j.scico.2021.102609

## Activities

### Oral presentation

	Presentation title	Event name Host (Event location)
2023/08/08	Empirical Performance Analysis of Android applications	Sustainable Workshop @ The 35th Symposium on Implementation and Application of Functional Languages Symposium on Implementation and Application of Functional Languages (Braga, Portugal)

2022/07	Energy Debt: Managing Consumption on Evolving Software	SusTrainable Summer School 2022 University of Rijeka - Faculty of Engineering, Croatia (Rijeka, Croatia)
2022	Monitoring Energy Performance on Android	CERCIRAS Joint Meeting Technical University of Denmark - DTU (Kopenhagen, Denmark)

## Event participation

	Activity description Type of event	Event name Institution / Organization
2022/07 - Current	RAW 2022 - Workshop on Resource Awareness of Systems and Society Workshop	RAW 2022 - Workshop on Resource Awareness of Systems and Society Universitet't po hranitelni tehnologiji Katedra Matematika i Fizika, Bulgaria
2023/09/04 - 2023/09/09	CERCIRAS Training School 2023 Seminar	<a href="https://www.cerciras.org/cerciras-training-school-2023/">https://www.cerciras.org/cerciras-training-school-2023/</a> Rigas Tehniska universitate, Latvia
2023/07 - 2023/07	SusTrainable Summer School 2023	SusTrainable Summer School 2023 Universidade de Coimbra Departamento de Engenharia Informática, Portugal
2022/07 - 2022/07	SusTrainable Summer School 2022 Other	SusTrainable Summer School 2022 Sveuciliste u Rijeci Tehnicki Fakultetu, Croatia
2019/06/17 - 2019/06/21	The three $\zeta$ CO $\zeta$ (Composability, Comprehensibility, Correctness) Summer School, Budapest, Hungary Other	The three "CO" (Composability, Comprehensibility, Correctness) Summer School 2019 Eötvös Loránd University (ELTE), Hungary
2018/01/22 - 2018/01/26	Functional Programming Winter School taking place in Kosice, Slovakia Other	The three "CO" (Composability, Comprehensibility, Correctness) Winter School Faculty of Electrical Engineering and Informatics of the Technical University of Košice, Slovakia

## Conference scientific committee

	Conference title	Conference host
2023/04 - 2023/05	International Conference on Information and Communications Technology for Sustainability (ICT4S 2023)	Rennes, France
2023/01 - 2023/02	IEEE/ACM International Conference on Software Engineering (ICSE 2023) - SCORE	

2022/11/01 - 2022/11/02	QRS 2022 - Software Quality, Reliability, and Security	Guangzhou, China
2022/04/01 - 2022/08/31	The 8th International Conference on ICT for Sustainability	Plovdiv, Bulgaria
2021/11/01 - 2021/11/30	QRS 2021 – The 21st IEEE International Conference on Software Quality, Reliability and Security	Hainan, China
2020/01/20 - 2020/01/22	International Conference on Sustainable Computing in Science	

## Course / Discipline taught

	Academic session	Degree Subject (Type)	Institution / Organization
2023/02 - 2023/06	Software Development Topics	Engenharia Informática (Mestrado integrado)	Universidade do Minho, Portugal
2021/08/16 - 2022/02/16	Informatics Laboratory III	Informatics Engineering (Licenciatura)	Universidade do Minho, Portugal
2021/02/16 - 2021/08/16	Informatics Laboratory I	Informatics Engineering (Mestrado integrado)	Universidade do Minho, Portugal
2020/08/16 - 2021/02/16	Informatics Laboratory III	Informatics Engineering (Mestrado integrado)	Universidade do Minho, Portugal
2020/02 - 2020/08	Informatics Laboratory III	Integrated MsC in Informatics Engineering (Mestrado integrado)	Universidade do Minho, Portugal
2019/02 - 2019/08	Informatics Laboratory III	Integrated MsC in Informatics Engineering (Mestrado integrado)	Universidade do Minho, Portugal

## Distinctions

### Award

2020	SIGSOFT CAPS Grant ACM SIGSOFT, United States
2017	Best Paper Award Brazilian Symposium on Programming Languages, Brazil

## Other distinction

2018

FCT PhD Grant

Fundação para a Ciência e a Tecnologia, Portugal

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