

Thiago de Paula Oliveira | CV



- » Statistical computing: R, Shiny, Maple, SageMath, Bash, C++
- » Computational programs: LaTeX, Markdown, Office, Gimp, Inkscape, GitHub
- » Operational systems: Linux, Mac, Windows
- » Languages: Portuguese (native), English
- » Research web pages: ORCID, Plubons, Personal Webpage

»»» General Information

- » Work Address: The University of Edinburgh, Easter Bush Campus, Midlothian EH25 9RG, Scotland
- » Tel: +44 7474 338884
- » E-mail Address: thiago.oliveira@ed.ac.uk
- » Date of Birth: 01 February 1985, Tatuí, Brazil
- » Nationality: Brazilian
- » Marital Status: Married

»»» Summary

I hold a PhD in Statistics from the University of São Paulo, Brazil, and have at least eight years of experience in experimental statistics, statistical modelling, and concordance analysis. As a PhD candidate, I was a visiting Scholar at the National University of Ireland in 2016, working with statistical modelling for agricultural data. Besides, I was a lecturer in the Department of Exact Sciences at ESALQ/University of São Paulo, Piracicaba, São Paulo, Brazil, from 2017 to 2019.

I worked as a Researcher Biostatistician from 2019 to 2020 at Insight Centre for Data Analytics in partnership with Orreco, School of Mathematics, Statistics, Applied Mathematics, and NUI Galway to develop statistical methods applied to athlete performance and predictive models for COVID-19. I developed statistical methods in longitudinal concordance correlation, multilevel model (hierarchical model), generalized linear mixed-effects model, state-space models, experimental design, longitudinal data.

As an enthusiast of the usage of dashboard apps to create an interactive data visualization, I believe that interactive applications are an easier way to create visual representations of large scale data sets, allowing the user to explore the complex reality of the database or even handle multiple sets of data in a single visualization.

Recently, I was awarded a Marie Skłodowska-Curie COFOUND Fellowship (Train@Ed) to work at The Roslin Institute - The University of Edinburgh, where I currently work on the development of statistical models applied to quantitative genetics and genomics of plant breeding in partnership with Limagrain.

»»» Education

2014 – 2018 PhD in Statistics
(4 years)

University of São Paulo –
ESALQ/USP

- » Title: Estimating the longitudinal concordance correlation through fixed effects and variance components of polynomial mixed-effects regression model
- » Advisor: Dr. Silvio Sandoval Zocchi and Prof. John Hinde
- » Department of Exact Sciences

2016
(3 months)

Visiting scholar – internship

NUIGalway

- » Supervisor: Prof. John Hinde
- » School of Mathematics, Statistics and Applied Mathematics
- » Development of new methodology in Concordance Analysis

2012 – 2014
(2 years)

MSc in Statistics

University of São Paulo –
ESALQ/USP

- » Title: Mixed-effects models applied to hue peel color of papaya cv. Sunrise Solo measured by an scanner and colorimeter over time
- » Advisor: Dr. Silvio Sandoval Zocchi
- » Department of Exact Sciences

2007 – 2012
(5 years)

BSc in Agricultural Engineering

University of São Paulo –
ESALQ/USP

- » Title: Calibration of scanner methodology to evaluate 'Golden' papaya peel color.
- » Advisor: Dr. Silvio Sandoval Zocchi
- » Department of Exact Sciences

»»» Professional experience

2020-Actual

Researcher Fellow

University of Edinburgh

- » PI: Dr. Gregor Gorjanc
- » Quantitative genetics and genomics of plant breeding
- » The Roslin Institute

2020
(3 months)

Postdoc in Biostatistics

NUIGalway

- » Supervisor: Prof. Dr. Carl Scarrott
- » Early Detection of Secondary Waves of Covid-19 Infections
- » School of Mathematics, Statistics & Applied Maths; and Insight Centre for Data Analytics

2020
(3 months)

Postdoc in Biostatistics

NUIGalway

- » Supervisor: Prof. Dr. John Newell
- » Aspire Academy research collaboration project
- » School of Mathematics, Statistics & Applied Maths; and Insight Centre for Data Analytics

2019
(8 months)

Postdoc in Biostatistics

NUI Galway

- » Supervisor: Prof. Dr. John Newell
- » Statistical modeling for optimizing athlete performance
- » School of Mathematics, Statistics & Applied Maths; Orreco; and Insight Centre for Data Analytics

2018-2019
(10 months)

Postdoc in Statistics

University of São Paulo –
ESALQ/USP

- » Advisor: Prof. Dr. Clarice Garcia Borges Demétrio
- » Title: Estimation of the longitudinal concordance correlation function: The 1cc package
- » Department of Exact Sciences

2017 – 2019

Assistant Professor at University of São Paulo – ESALQ/USP (18 months)

»»» Volunteer experience

2016

Class tutor in Calculus at University of São Paulo – ESALQ/USP (5 months)

2015

Class tutor in Statistics at University of São Paulo – ESALQ/USP (5 months)

»»» Research experience

Development of cattle and plant breeding programmes

Generalized linear mixed-effects models (Classical and Bayesian)

Concordance analysis (Agreement, precision, and accuracy measures)

Bootstrap methods for confidence intervals (Non-parametric and parametric)

Experimental Designs (Complete and Incomplete Blocks, Latin Square, Full factorial, Fractional Factorial, Split-Plot, Central Composite, Nested designs)

Longitudinal data and Observational Studies

State space models (ARMA, ARIMA and Random Walk models)

Digital Image Analysis, Agricultural Production, Post-Harvest Studies

Development of R packages, Dashboard Design, and Webpages (Github)

»»» Publications

Table 1: Publications summary

	Article	R Package	Abstract	Preprint
Number	9	2	11	0

Papers in Peer-Reviewed Journals

Article

Lara, L.A.d.C., Pocrnic, I., **Oliveira, T.d.P.** et al. Temporal and genomic analysis of additive genetic variance in breeding programmes, **Heredity**, 2021. DOI: 10.1038/s41437-021-00485-y

Article	Oliveira, T.P. ; Buinvels, G; Pedlar, C.; Newell, J. Modelling menstrual cycle length in athletes using state-space models, Scientific Reports , 11, 2021. DOI: 10.1038/s41598-021-95960-1
Article	Oliveira, T.P. ; Moral, R.A. Global Short-Term Forecasting of Covid-19 Cases, Scientific Reports , 2021. DOI: https://doi.org/10.1038/s41598-021-87230-x
Article	Oliveira, T.P. ; Moral, R. A.; Zocchi, S. S.; Demetrio, C. G. B; Hinde, J. lcc: an R package to estimate the concordance correlation, Pearson correlation, and accuracy over time. PeerJ . Accepted for publication in August of 2020. DOI: 10.7717/peerj.9850
Article	Kleina, H. T.; Kudlawiec, K.; Esteves, M. B.; Daibó, M.; Oliveira, T.P. ; Maluta, N.; Lopes, J. S.; Mio, L. M. Association of leaf morphology, vector settling and feeding behavior with resistance of plum genotypes to leaf scald disease. Entomologia Experimentalis et Applicata . Accepted for publication in August of 2020. DOI: 10.1007/s10658-020-02104-8
Article	Popin, G. V.; Santos, A. K. B.; Oliveira, T.P. ; Camargo, P. B.; Cerri, C. E. P.; Siqueira-Neto; M. Sugarcane straw management for bioenergy: effects of global warming on greenhouse gas emissions and soil carbon storage. Mitigation and Adaptation Strategies for Global Change , 2019. Link: https://doi.org/10.1007/s11027-019-09880-7
Article	Esteves, M. B.; Kleina, H. T.; Sales, T. M.; Oliveira, T.P. ; Lara, I. A. R.; Almeida, R. P. P.; Coletta-Filho, H. D.; Lopes, J. R. S. Transmission efficiency of <i>Xylella fastidiosa</i> subsp. <i>pauca</i> sequence types by sharpshooter vectors after <i>in vitro</i> acquisition. The American Phytopathological Society , v. 109, no.2, 2019. Link: https://doi.org/10.1094/PHYTO-07-18-0254-FI
Article	Oliveira, T.P. ; Hinde, J.; Zocchi, S. S. Longitudinal Concordance Correlation Function Based on Variance Components: An Application in Fruit Color Analysis. Journal of Agricultural, Biological, and Environmental Statistics , v. 23, p. 233-254, 2018. Link: https://doi.org/10.1007/s13253-018-0321-1
Article	Oliveira, T.P. ; Zocchi, S. S. ; Jacomino, A. P. Measuring color hue in ‘Sunrise Solo’ papaya using a flatbed scanner. Revista Brasileira de Fruticultura , v. 39, p. e-911, 2017. Link: http://dx.doi.org/10.1590/0100-29452017911

Software

R package	Gorjanc, Gregor; Obsteter, Jana; Oliveira, T.P. Partition/Decomposition of Breeding Values by Paths of Information, R package version 0.9.3, 2022. See also https://github.com/AlphaGenes/AlphaPart/tree/version-0.9.3
R package	Oliveira, T.P. ; Moral, R. A.; Hinde, J.; Zocchi, S. S.; Demetrio, C. G. B. lcc: Longitudinal Concordance Correlation, R package version 1.0.2, 2018. See also https://github.com/Prof-ThiagoOliveira/lcc

Proceedings

Extended abstract	Oliveira, T.P. ; Moral, R.A.; Hinde, J.; Zocchi, S.S.; Demétrio, C.G.B. The longitudinal concordance correlation. In: 34th International Workshop on Statistical Modelling , 2019, Guimarães. Proceedings of the 34 th International Workshop on Statistical Modelling, 2019. v. 2.
Abstract	Zocchi, S.S.; Oliveira, T.P. Propagação de Penicillium em laranja (Citrus cinensis): estimulando o aprendizado de cálculo. 1º Oficina para o desenvolvimento docente de 2017, “Novas abordagens de ensino - compartilhando experiências na ESALQ”, 2017
Abstract	Oliveira, T.P. ; Hinde, J.; Zocchi, S.S. Longitudinal Concordance correlation function based on variance components: an application in fruit color analysis. NUIG Statistics MiniSymposium, 2016.
Extended abstract	Oliveira, T.P. ; Moral, R.A.; Hinde, J.; Demétrio, C.G.B.; Zocchi, S.S.; Zanardo, A.B.R.; Delalibera Jr., I. Generalized linear mixed models applied to overdispersed proportion data in a fungal occurrence study. In: 30th International Workshop on Statistical Modelling , 2015, Linz. Proceedings of the 30 th International Workshop on Statistical Modelling, 2015. v. 2. p. 203-206.

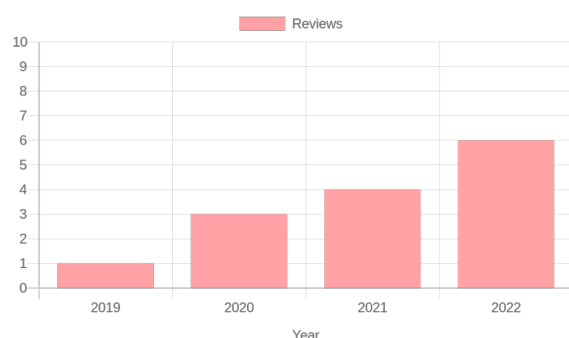
- Abstract** **Oliveira, T.P.;** Moral, R.A.; Hinde, J.; Demétrio, C.G.B.; Zocchi, S.S. Generalized linear mixed models: an application in fungal occurrence data. In: **60ª Reunião Anual da Região Brasileira da Sociedade Internacional de Biometria e 16º Simpósio de Estatística Aplicada à Experimentação Agrônômica**, 2015, Presidente Prudente. Reunião Anual da Região Brasileira da Sociedade Internacional de Biometria, n. 60, Presidente Prudente, 2015. 172 p., 2015.
- Abstract** **Oliveira, T.P.;** Zocchi, S.S. ; Ferreira, I. E.P. Mixed models for analysis of hue peel colour of papaya (*Carica papaya* L.) cv. Sunrise Solo, measured along time by means of a scanner and a colorimeter. In: XXVII International Biometric Conference, 2014, Florence, Italy. Proceedings of XXVII International Biometric Conference, 2014. v. 1.
- Abstract** **Oliveira, T.P.;** Zocchi, S.S. Mixed models for analysis of hue peel color of papaya (*Carica papaya* L.) cv. 'Sunrise Solo', measured along time by means of a scanner and a colorimeter. I Workshop on Experimental Statistics e IV Encontro dos Alunos do PPG em Agronomia (Estatística e experimentação agrônômica), 2014.
- Extended abstract** **Oliveira, T.P.;** Zocchi, S. S. . Análise de dados circulares com aplicação em tonalidade da cor de casca de mamão 'Sunrise Solo'. In: **58ª Reunião Anual da Região Brasileira da Sociedade Internacional de Biometria e 15º Simpósio de Estatística Aplicada à Experimentação Agrônômica**, 2013, Campina Grande. Anais..., 2013. p. 202.
- Extended abstract** **Oliveira, T.P.;** Zocchi, S. S. Análise de dados circulares com aplicação em tonalidade da cor de casca de mamão 'Sunrise Solo'. In: **58ª Reunião Anual da Região Brasileira da Sociedade Internacional de Biometria e 15º Simpósio de Estatística Aplicada à Experimentação Agrônômica**, 2013, Campina Grande. Anais..., 2013. p. 202.
- Abstract** **Oliveira, T.P.;** Zocchi, S. S. Modelos lineares de efeitos mistos: um estudo de caso. Encontro dos Alunos do Programa de Pós-Graduação em Estatística e Experimentação Agrônômica, 2013
- Abstract** Camara, G. M. S.; **Oliveira, T.P.;** Navarro, B. L. ; Brigliadori, L. D. Crescimento e produtividade de soja em três arranjos espaciais. In: **VI Congresso Brasileiro de Soja**, 2012, Cuiabá-MT. Anais. Londrina-PR : Embrapa Soja, 2012. v. 1. p. 151-153.

Thesis

- Thesis** **Oliveira, T.P.** Estimating the longitudinal concordance correlation through fixed effects and variance components of polynomial mixed-effects regression model. University of São Paulo, 2018
- Thesis** **Oliveira, T.P.** Mixed-effects models applied to hue peel color of papaya cv. Sunrise Solo measured by an scanner and colorimeter over time. University of São Paulo, 2014

Reviewer

REVIEW SUMMARY



REVIEWER SUMMARY

(3) PeerJ	WOS	(2) International Journal of Sports Physiolo...	WOS
(2) Plos One	WOS	(2) The R Journal	WOS
(1) Brazilian Journal of Probability and Stat...	WOS	(1) The Plant Genome	WOS
(1) The Journal of Open Source Software		(1) Biology Letters	WOS
(1) Biocontrol Science and Technology	WOS		

Masters and PhD Examiners

- 2019 Nascimento, C.O.; Lara, I.A.R. Analysis of color peel of the papaya cv. Sunrise Solo through of the mixed linear regression model. Thesis (Master's Degree in Statistics) – University of São Paulo, Piracicaba, Brazil.

2022 Silva, G.P.; Moral, R. A. Frame by frame completion probability of an American football pass. Thesis (Master's Degree in Statistics) – University of São Paulo, Piracicaba, Brazil.

»» Awards

2020 Runner-up Poster on Young-ISA Twitter Poster Conference promoted by the Irish Statistical Association. Poster Title: Global short-term forecasting of Covid-19 cases. Authors: **Oliveira, T.P.**; Moral, R.A., July, 2020

2020 Marie Skłodowska-Curie COFUND Fellowship under the project “Quantitative genetics and genomics of plant breeding”

2010 Honorable Mention at the 18th USP International Symposium of Undergraduate Research, University of São Paulo.

»» Extracurricular courses

2021 Workflows with Nextflow, University of Edinburgh (36h)

2021 Introduction to Bash Shell Scripting, Coursera Project Network (4h)

2021 World Meeting of the International Society for Bayesian Analysis (24h)

2021 Equality & Diversity Essentials (2h)

2021 UKRI-BBSRC Workshop on Computing in the Biosciences (6h)

2021 Challenging Unconscious Bias (1h)

2021 Genome-wide prediction of complex traits in humans, plants and animals (30h)

2020 Programming Fundamentals, Coursera, Duke University, USA. (32h)

2019 Survival Analysis in R. DataCamp, USA. (4h)

2019 Building Web Applications in R with Shiny: Case Studies Course. DataCamp, USA. (4h)

2019 Building Dashboards with shinydashboard. DataCamp, USA. (4h)

2019 Building Web Applications in R with Shiny. DataCamp, USA. (4h)

2019 Introduction to Python. DataCamp, USA. (4h)

2019 Statistical Modeling in R (Part 1). DataCamp, USA. (4h)

2019 Intermediate R. DataCamp, USA. (6h)

2019 Introduction to R. DataCamp, USA. (4h)

2018 Machine Learning Toolbox. DataCamp, USA. (4h)

2016 Longitudinal and Incomplete Data – USP (30h)

2015 Short course on Regression Models – Coursera, MOOC, USA (36h)

2015	Short course on Dimensionality Reduction – USP
2015	Additive Generalized Models with P-splines – RBras
2015	Exploring interactive graphical interfaces in R – RBras
2015	Exploring the Flexibility of Linear Mixed Models – RBras
2015	Special Topics in Multivariate Analysis – RBras
2014	Generalized Additive Models with P-splines – USP
2013	Short course on Statistics: Making Sense of Data – Coursera, MOOC, USA
2013	Short course on Mathematical Biostatistics Boot Camp – Coursera, MOOC, USA
2013	Introduction to Categorical Data Analysis – USP
2013	Structural Equations Models – USP
2013	Some Important Topics of Asymptotic Theory – USP

»»» Event participation

2021	7th Summer Institute in Statistics for Big Data (SISBID)
2021	Genome-wide prediction of complex traits in humans, plants and animals
2021	Software Licensing Workshop
2020	71 st Annual Meeting of European Federation of Animal Science (EAAP)
2020	Why R? 2020 conference organized remotely
2019	The Inaugural Young-ISA Meeting – Maynooth, Co. Kildare, Ireland
2019	34 th meeting of the International Workshop on Statistical Modelling (IWSM) – Guimarães, Portugal.
2016	NUIG Statistics MiniSymposium. Longitudinal Concordance correlation function based on variance components: an application in fruit color analysis.
2015	30 th meeting of the International Workshop on Statistical Modelling (IWSM) – Linz, Vienna.
2015	60 th meeting of the Brazilian Region International Biometric Society (RBras) e 16° “Simpósio de Estatística Aplicada à Experimentação Agrônômica” – Presidente Prudente, SP, Brazil
2015	How to Write for and Get Published in Scientific Journals – Piracicaba, SP, Brazil
2014	II Workshop on Longitudinal and Incomplete Data – Piracicaba, SP, Brazil
2014	I Workshop on Experimental Statistics e IV “Encontro dos Alunos do PPG em Agronomia” – Piracicaba, SP, Brazil

2013	58 th meeting of the Brazilian Region International Biometric Society e 15° “Simpósio de Estatística Aplicada à Experimentação Agronômica” – São Paulo, SP, Brazil
2012	57 th meeting of the Brazilian Region International Biometric Society – Piracicaba, SP, Brazil
2011	19 th meeting of the USP International Symposium of Undergraduate Research – Piracicaba, SP, Brazil
2010	18 th meeting of the USP International Symposium of Undergraduate Research – Piracicaba, SP, Brazil

»» Teaching Experience

Taught Modules

2018	LCE0602 Experimental Statistics, University of São Paulo, Piracicaba, Brazil, <i>Agricultural Engineering programme</i> , August-December.
2018	LCE0220 Calculus II, University of São Paulo, Piracicaba, Brazil, <i>Agricultural Engineering programme</i> , August - December.
2018	LCE0120 Calculus I, University of São Paulo, Piracicaba, Brazil, <i>Agricultural Engineering programme</i> , August - December.
2018	LCE0120 Calculus I, University of São Paulo, Piracicaba, Brazil, <i>Agricultural Engineering programme</i> , February - June.
2018	LCE0220 Calculus II, University of São Paulo, Piracicaba, Brazil, <i>Agricultural Engineering programme</i> , February - June.
2018	LCE0130 Differential and Integral Calculus, University of São Paulo, Piracicaba, Brazil, <i>Food Science programme</i> , February - June.
2017	LCE0602 Experimental Statistics, University of São Paulo, Piracicaba, Brazil, <i>Agricultural Engineering programme</i> , August - December.
2017	LCE0120 Calculus II, University of São Paulo, Piracicaba, Brazil, <i>Agricultural Engineering programme</i> , August - December.

Taught Short Courses

2021	Visualization and Data Structure on Breeding Programme Modelling with AlphaSimR, University of Edinburgh, Scotland
2018	I Workshop on Introduction to Experimental Design, University of São Paulo, Piracicaba, Brazil

Teaching Assistance

2016	LCE0120 - Calculus I, University of São Paulo, Piracicaba, Brazil, taught by Dr. Silvio Sandoval Zocchi for undergraduate students of the Agricultural Engineering programme, 120h
2015	LLCE0220 Calculus II, University of São Paulo, Piracicaba, Brazil, taught by Prof. Idemauro Antonio Rodrigues de Lara for undergraduate students of the Agricultural Engineering programme, August-December, 120h
2015	LLCE0211 Statistics, University of São Paulo, Piracicaba, Brazil, taught by Dr. Silvio Sandoval Zocchi for undergraduate students of the Agricultural Engineering programme, February-June, 120h
2013	LLCE0220 Calculus II, University of São Paulo, Piracicaba, Brazil, taught by Prof. Idemauro Antonio Rodrigues de Lara for undergraduate students of the Agricultural Engineering programme, August-December, 120h

2013	LLCE0166 Calculus and Mathematics Applied to Food Sciences, University of São Paulo, Piracicaba, Brazil, taught by Dr. Silvio Sandoval Zocchi for undergraduate students of the Food Sciences programme, February-June, 120h
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»»» Lectured workshops and invited talks

2021	Modelling menstrual cycle length in athletes using state-space models. Statistical weekly meeting, Brazil
2020	Global Short-Term Forecasting of Covid-19 Cases. Webinar Series of the Young-ISA, Ireland
2020	Global Short-Term Forecasting of Covid-19 Cases. Workshop on Applied Statistics: Prediction models for COVID-19, Artificial Intelligence and Postgraduate Research during pandemic time. University of São Paulo, Brazil
2020	Estimating NBA athlete performance using hierarchical models, National University of Ireland Galway, Ireland, 21 April 2020
2019	Modelling athletes menstrual cycle length using state space models. NUI Galway, Ireland
2019	Modelling menstrual cycle length using state space models. The Inaugural Young-ISA Meeting – Maynooth, Ireland
2016	Longitudinal concordance correlation function based on variance components: an application in fruit color – NUI Galway

»»» Professional Websites

Blog	https://prof-thiagooliveira.netlify.app	Link
GitHub	https://github.com/Prof-ThiagoOliveira	Link

»»» Funding - Grants & Contracts

2020-2023	TRAIN@Ed Fellow	Grant
	<ul style="list-style-type: none"> » Marie Skłodowska Curie COFUND fellowships » PI: Gregor Gorjanc » Quantifying the Drives of Genetic Change in Plant Breeding » Project Funding: £70,000 	
2020-2020	Researcher in Biostatistics	Postdoctoral
	<ul style="list-style-type: none"> » Science Foundation Ireland » PI: Prof. Carl Scarrott » Project: Early Detection of Secondary Waves of Covid-19 Infections » Project Funding: €32,618 	
2020-2020	Researcher in Biostatistics	Postdoctoral
	<ul style="list-style-type: none"> » Science Foundation Ireland » PI: Prof. John Newell » Project: Aspire Academy research collaboration project » Project Funding: €20,000 	
2019-2019	Researcher in Biostatistics	Postdoctoral

- » Science Foundation Ireland
- » PI: Prof. John Newell
- » Project: Development of statistical model with application in athlete performance
- » Project Funding: €12,417,097

2018-2019

Researcher in Statistics

Postdoctoral

- » Coordination of Improvement of Higher Education Personnel
- » PI: Prof^a. Clarice G. B. Demétrio
- » Project: Estimation of Longitudinal Concordance Correlation Function: The lcc package
- » Grants awarded: approximately £7,000

»»» Media and Impact

Blog posts

- Post Moral, R.A.; **Oliveira, T.P.**; Parnell, A. How hard is it to predict COVID-19 cases? 2020. URL: <https://www.hamilton.ie/covid19/posts/2020-10-01-how-hard-to-predict-cases/>
- Post **Oliveira, T.P.** Expressions in C++. 2020. URL: <https://prof-thiagooliveira.netlify.app/post/expressions/>
- Post **Oliveira, T.P.** Signed and Unsigned Binary Numbers. 2020. URL: <https://prof-thiagooliveira.netlify.app/post/signed-and-unsigned-binary-numbers/>
- Post **Oliveira, T.P.** The seven steps of a programmer. 2020. URL: <https://prof-thiagooliveira.netlify.app/post/the-seven-steps-of-a-programmer/>

»»» References

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