



TO MAGNIFICO RETTORE OF UNIVERSITA' DEGLI STUDI DI MILANO

ID CODE 5799

I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at Dipartimento di Computer Science.

Scientist- in - charge: Stavros Ntalampiras.

Samara Soares Leal

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	LEAL
Name	SAMARA

PRESENT OCCUPATION

Appointment	Structure
National Project Manager	Founder and Manager of the innovation area of Anima Educação, called Anima HUB . A network of 67 technology- based innovation and research laboratories in all Anima Educação 26 higher education institutions throughout Brazil, with more than 230 multidisciplinary research teams , more than 4 thousand students involved and 209 professors , conducting research in technological innovation in various fields (health, law, engineering, communication, education, among others).
University Professor	University professor for more than 5 years, teaching programming in Java, C, Python, JavaScript, artificial intelligence, machine learning, DevOps, compilers, database and agile management.
Coordinator and advisor	Coordinator and advisor of a research lab that develops technological innovations in the medical field .

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Bachelor	Computer Science	<i>Centro Universitário de Belo Horizonte (UniBH)</i>	2012
Specialization	MBA in Artificial Intelligence	IBMEC	2023
Master	Mathematical and Computational Modeling	<i>Centro Federal de Educação Tecnológica de Minas Gerais (CEFETMG)</i>	2020
PhD	Mathematical and Computational Modeling	<i>Centro Federal de Educação Tecnológica de Minas Gerais</i>	2016



		(CEFETMG)	
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REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date registration	of Association	City
2020	Health Lab - Laboratory of technological innovations in the medical field.	Belo Horizonte - Brazil

FOREIGN LANGUAGES

Languages	level of knowledge
English	Excellent

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2012	Academic highlight in Computer Science with the Highest Grade.
2010	Certificate of Honor for Merit - From the Secretary of Social Development of the Government of Minas Gerais, Brazil.
2021	Mention at the World Health Organization database on COVID-19

PROJECT ACTIVITY

Year	Project
2023	AI applied to course content recommendation
2022	Artificial Intelligence in legal proceedings against health insurance companies.
2022- current	Program for teaching programming to people from Brazilian slums.
2021 - current	GENT - Platform for Integrated Health Clinic of the NGO Assopoc.
2020 - current	Gamification for Infectious Diseases Medical Education
2020 - current	Virtual Patient Simulator
2016 - current	OACTS: Mathematical Model for Optimizing the Active Control of Traffic Signals Parameters

CONGRESSES AND SEMINARS

Date	Title	Place
July 17-21, 2023	OACTS: Mathematical Model for Optimizing the Active Control of Traffic Signals Parameters.	16th World Conference on Transport Research - WCTR 2023, Montreal, Canada
July 28-30, 2023	Innovation in Medical and Legal Education: Artificial Intelligence in lawsuits against Health Plans.	7th International Conference on Applied Research in Management, Economics, and Accounting (IARMEA), Dublin, Republic of Ireland
June 23-	Extension Project Based on Flipped	the 6th International Academic Conference



25, 2023	Classroom to the Development of Hard and Soft Skills in Brazilian Outskirts: Case studies	on Teaching, Learning and Education - TLECONF 2023, Amsterdam, Netherlands.
March 1st, 2022	Virtual Patient: Development of a Clinical Cases Simulator as a Tool for Medical Education	The 5th International Conference on Research in Applied Science, Berlin, Germany.
May 26-31, 2019	Calibrating Traffic Microscopic Simulation Model Parameters Using an Evolutionary Approach.	15th World Conference on Transport Research - WCTR, Mumbai, India.
November 1st, 2017	Modelo de Otimização para o Controle Ativo do Plano de Temporização Semaforica de Interseções	XXXI Congresso de Pesquisa e Ensino em Transportes da ANPET, Recife, Brazil.
October 10-14, 2016	Active Control of Traffic Signals using a Multi-objective Approach and Evolutionary Algorithms.	23rd ITS World Congress in Melbourne, Australia
July 10-15, 2016	Active control for traffic lights in regions and corridors: an approach based on evolutionary computation.	14th World Conference on Transport Research - WCTR, Xangai, China

PUBLICATIONS

SOUZA, B H Flávio; LEAL, S Samara., et al. Virtual Patient: Development of a Clinical Cases Simulator as a Tool for Medical Education. Proceedings of the 5th International Conference on Research in Applied Science. Berlin, Germany. 2022. - DOI: https://www.doi.org/10.33422/5th.rasconf.2022.03.01
SOUZA, GREGORY; LEAL., et al. 969. Gamification for Infectious Diseases Medical Education: Creating a Videogame to Teach COVID 19 Diagnosis and Treatment to Medical Students. In: Open forum infectious diseases. US: Oxford University Press, p. 5576-5577, 2021. - DOI: https://doi.org/10.1093/ofid/ofab466.1164
LEAL, Samara Soares; DE ALMEIDA, Paulo Eduardo Maciel; RIBEIRO, Renato Guimarães. Calibrating Traffic Microscopic Simulation Model Parameters Using an Evolutionary Approach. Transportation Research Procedia, v. 48, p. 1038-1045, 2020. - DOI: https://doi.org/10.1016/j.trpro.2020.08.131
LEAL, Soares Samara; DE ALMEIDA, Maciel Eduardo Paulo; BESSA JUNIOR, Jose Elievam. MODELO DE OTIMIZAÇÃO PARA O CONTROLE ATIVO DO PLANO DE TEMPORIZAÇÃO SEMAFÓRICA DE INTERSEÇÕES. In book: O Desenvolvimento Sustentável do Sistema de Transportes do Brasil, Atena Editora, p. 33, 2019. - DOI: https://doi.org/10.22533/at.ed.5571919123
COSTA, Breno C; LEAL, Samara Soares, DE ALMEIDA, Paulo Eduardo Maciel; CARRANO, Eduardo G. Fixed-time traffic signal optimization using a multi-objective evolutionary algorithm and microsimulation of urban networks. Transactions of the Institute of Measurement and Control, v. 40, n. 4, p. 1092-1101, 2018. - DOI: https://doi.org/10.1177/0142331216675026
LEAL, Soares Samara; DE ALMEIDA, Paulo Eduardo Maciel; CHUNG, Edward. Active control for traffic lights in regions and corridors: an approach based on evolutionary computation. Transportation research procedia, v. 25, p. 1769-1780, 2017. - DOI: https://doi.org/10.1016/j.trpro.2017.05.140
TORRES, Victor Hugo Xavier; LEAL, Samara Soares; DE ALMEIDA, Paulo Eduardo Maciel. Modelagem fuzzy para o problema de temporização semaforica em interseções de quatro tempos. Abakós, v. 3, n. 1, p.



59-74,

2014.

- DOI: <https://doi.org/10.5752/P.2316-9451.2014v3n1p59>

Articles in reviews

LEAL, Samara Soares; ALMEIDA, Paulo Eduardo M. **Traffic light optimization using Non-Dominated Sorting Genetic Algorithm (NSGA2).** In Scientific Reports, March 2023.
- DOI (Preprint): <https://doi.org/10.21203/rs.3.rs-2693295/v1>

LEAL, Samara Soares; ALMEIDA, Paulo Eduardo M. **Delay Model for Active Traffic Signals Control and Micro-Simulation of Urban Networks: A comparison between evolutionary approaches.** ITE Journal - Institute of Transportation Engineers, May 2023.

SOUZA, B H Flavio; LEAL, S Samara., et al. **PLATFORM FOR GAMIFICATION OF MEDICAL EDUCATION: EXPANDING TEACHING STRATEGIES WITH DATA MANAGEMENT AND GAMIFIED INTERACTION.** In 7th International Conference on Prevention and Infection Control (ICPIC), Geneva, Switzerland, 12 to 15 September 2023.

SOUZA, B H Flavio; LEAL, S Samara., et al. **VIRTUAL PATIENT: NEW AND OPTIMIZED DECISION TREE IN VIRTUAL SIMULATION PROCESS.** In 7th International Conference on Prevention and Infection Control (ICPIC), Geneva, Switzerland, 12 to 15 September 2023.

OTHER INFORMATION

In 2020, I became the youngest Ph.D. student in Mathematical and Computational Modeling at CEFETMG in Brazil. With more than 10 years of experience in Java and Python, I have a deep knowledge of these programming languages (see some of my projects on my github: <https://github.com/samarasleal>). I am also an IBM Full Stack Cloud Software Developer with a focus on native development of cloud applications using JavaScript, Node.js, React.js, Python, DevOps, Django, containers and microservices. I've also completed an MBA in Artificial Intelligence, focusing on Python libraries (scikit-learn, TensorFlow e PyTorch, etc) and deep learning frameworks for computer vision and natural language processing. I'm also an agile coach with experience in Scrum, Kanban and Design Thinking methodologies.

Contacts for further references:

- Marcone Freitas: Dean and professor at The Federal University of Ouro Preto - Brazil (Email: marcone.freitas@gmail.com)
- Edward Chung: Professor at The Hong Kong Polytechnic University - (Email: edward.cs.chung@polyu.edu.hk)
- Carolina Marcelino: Adjunct Professor at Federal University of Rio de Janeiro - Brazil (Email: carolimarc@gmail.com)

Link with all resume attachments (Original in Portuguese and translated into English):

https://drive.google.com/drive/folders/16EwygaAkCr79LwftqhxQLioVuXA3JkGk?usp=share_link

Declarations given in the present curriculum must be considered released according to art. 46 and 47 of DPR n. 445/2000.

The present curriculum does not contain confidential and legal information according to art. 4, paragraph 1, points d) and e) of D.Lgs. 30.06.2003 n. 196.

Please note that CV WILL BE PUBLISHED on the University website and It is recommended that personal and sensitive data should not be included. This template is realized to satisfy the need of publication without personal and sensitive data.

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Place and date: June 9th, 2023.