

Matheus Torquato

Contact

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Expertise

Artificial Intelligence,
Machine Learning,
Data Science, Data
Mining, Embedded
Computing, Digital
Systems,
Reconfigurable
Computing and
Human-Computer
Interaction.

Skills

Python, MATLAB,
TensorFlow, Scikit
Learn, Pandas,
NumPy, SciPy, Version
control systems,
Translating complex
scientific concepts to
non-experts,
Proactivity,
Organisation,
Communication,
Responsibility and
Discipline

Languages

English
Portuguese

Summary

BEng and MSc in Computer Engineering. Two years of experience in applying Machine Learning to manufacturing processes. Expertise in scientific and applied research in the topics of Artificial Intelligence, Data Science, Embedded Computing, Digital Systems and Human-Computer Interaction. Well-developed skills employing scientific methods through experimental design, exploratory data analysis and hypothesis testing. Enthusiastic about utilising novel analytical approaches to address real-world challenges and improve commercial outcomes with data. Looking to learn on a daily basis, knowledge is never too much.

Experience

- 2018 - Now **ASTUTE 2020** Swansea, UK
Project Assistant (Machine Learning) - June to Now
- Leading the development of projects involving machine learning, data science, computer vision and optimisation.
 - Designing regression, classification and predictive models for processes in the Welsh manufacturing sector.
 - Delivering actionable insights from industrial datasets focusing on supporting managerial informed decisions.
 - Writing collaborative technical project proposals, specifying data and engineering requirements.
- 2015 - 2015 **Tata Steel** Port Talbot, UK
Process Control Engineering Trainee - September to October
- Developed a mobile app (VB programming language) for logging field measurements, previously performed manually.
 - Collaborated in the selection of power metering devices for updating the company's high voltage substation network.
- 2014 - 2014 **Petrobras** Natal, Brazil
Engineering Intern - March to May
- Assisted in the final stage of a Programmable Logic Controller ladder code development
- 2014 - 2014 **National Institute for Space Research (INPE)** Natal, Brazil
Engineering Intern - January to March
- Coded a frequency-based signal detecting software (MATLAB) used by low altitude satellites.

Education

- 2016 - 2017 **MSc Computer Engineering** UFRN - Natal, Brazil
Final Mark: 10/10 | Included a period in the SMART Lab (Ottawa, Canada) as a visiting researcher.
- 2014 - 2015 **One Year Abroad Computer Science** Swansea University - Swansea, Wales, UK
Final Mark: 7.1/10 | Scholarship awarded from the Science Without Borders Programme.
- 2010 - 2015 **BEng Computer Engineering** UFRN - Natal, Brazil
Final Mark: 9.6/10 | Result among the top 0.15% highest in the history of this undergraduate course.

Awards

2017	Emerging Leaders in the Americas Program (ELAP)	Canada
	Scholarship targeting the development of high-impact human capital and the next generation of leaders in the Americas.	
2016	3rd Place - Intel Embedded Systems Competition 2016	João Pessoa, Brazil
	Development of a tactile glove device built using an Intel Galileo Board and additional peripheral electronics.	
2016	Academic Merit Medal	UFRN, Natal, RN, Brazil
	Honour to whom achieves the highest overall graduation mark.	
2015	BBC University newsHACK Challenge	Cardiff - Wales
	Won the category "Deliver the news" after proposing a personalised News experience that was shaped according to user's preferences.	
2014	1st Place - Maker Competition 2014	Swansea University, Swansea - Wales
	Best project in an annual competition held by Swansea University Computer Science department. The project used hardware boards (Arduino and Raspberry Pi) to build a wireless automated house powered by software written in Java, C and Python languages.	

Important Publications

2020	Journal Paper (Under Development)	
	Convolutional Neural Network Applied to SARS-CoV-2 Sequence Classification.	
2020	Journal Paper (Under Review)	Nature
	Evaluating the burden of COVID-19 in Bahia, Brazil: A modeling analysis of 14.8 million individuals.	
2020	Journal Paper (Under Review)	Sensors
	Proposal of a Computer Aided Diagnosis System for Melanoma Detection using Reconfigurable Computing.	
2020	Journal Paper (Under Review)	Journal of Intelligent Manufacturing
	Multi-objective Optimisation of Electric Arc Furnace Using the NSGA-II Evolutionary Algorithm.	
2019	Journal Paper	Sensors
	Proposal of the Tactile Glove Device.	
2019	Journal Paper	Microprocessors and Microsystems
	A parallel implementation of sequential minimal optimization on FPGA.	
2019	Journal Paper	Circuits, Systems, and Signal Processing
	High-Performance Parallel Implementation of Genetic Algorithm on FPGA.	
2019	Journal Paper	IEEE Access
	Parallel Implementation of Reinforcement Learning Q-Learning Technique for FPGA.	
2016	Journal Paper - (Honorable Mention)	CHI 2016
	Emergeables: Deformable Displays for Continuous Eyes-Free Mobile Interaction.	

Additional Activities

2020	Online Course	Udemy
	Quantitative Finance & Algorithmic Trading in Python	
2018	Online Course	University of Michigan - edX
	Introduction to User Experience	