

# Carolina Seabra

## SUMMARY

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Graduated as Biomedical and Biophysics Engineer in 2019 at the Faculty of Sciences, University of Lisbon, in Portugal. During my master, where I gained knowledge in AI for medical imaging applications, my interest in research has grown. My experience as a junior researcher allowed me to strongly improve my programming skills specifically in medical image processing and analysis and to further develop my curiosity, fascination and passion for the radiotherapy field.

**KEYWORDS:** Biomedical Engineering, Radiotherapy, Medical Physics, AI, Hyperthermia

## EXPERIENCE

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| FEB 2020 - JAN 2021 | <b>Junior Researcher in the Physics Research Group at MAASTRO</b><br>Maastricht, Netherlands<br>Investigating and developing imaging techniques to verify beam delivery of proton radiotherapy using Monte Carlo simulations and treatment planning system.                                                                                  |
| OCT 2018-OCT 2019   | <b>Visiting Student at CHAMPALIMAUD FOUNDATION (CF)</b><br>Lisbon, Portugal<br>Model development using Machine Learning to predict prostate cancer recurrence. Project developed for Master's dissertation, supervised by Dr Nickolas Papanikolaou from CF and by Dr Raquel Conceição, from Faculty of Science, University of Lisbon (FCUL). |
| SEP 2018 - FEB 2019 | <b>Teaching Assistant at FACULTY OF SCIENCE, UNIVERSITY OF LISBON (FCUL)</b><br>Lisbon, Portugal<br>Department of Physics (Departamento de Física)                                                                                                                                                                                           |
| SUMMER 2017         | <b>Internship at GERMAN CANCER RESEARCH CENTER (DKFZ)</b><br>Heidelberg, Germany<br>Development of a device designed to avoid misalignment and various types of motion in radiotherapy.                                                                                                                                                      |

## EDUCATION

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| 13-15 FEBRUARY 2019 | <b>DELix – Lisbon Winter School on Data Science and Engineering</b><br>General focus on information transformation cycle: state of the art technology relevant to data science and engineering, and advanced analytics.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2014 - OCTOBER 2019 | <b>Integrated BSE/MSE degree in BIOMEDICAL ENGINEERING AND BIOPHYSICS</b><br><b>Profile: Radiation in Diagnosis and Therapy</b><br>Faculty of Science, University of Lisbon (FCUL)<br>Academic training comprises courses as:<br>Maths, Mechanics, Cell Biology, Instrumentation, Radiation Physics, Anatomy and Physiology, Biochemistry, Chemistry, Biomedical Signals and Image Processing, Programming, Medical Physics, Nuclear Physics, Dosimetry and Radiological Protection.<br><br>1 <sup>st</sup> cycle (BSE) completed with a grade of 16/20. Degree Certificate in attachment, issued on the 4 <sup>th</sup> September 2018.<br><br>2 <sup>nd</sup> cycle (MSE) completed with a grade of 18/20. The curricular part of this cycle of studies was completed with an average of 17/20. The masters dissertation project was completed with a grade of 19/20.<br><br>Degree Final Grade: 17/20 |
| 2011-2014           | <b>General Certificate of Secondary Education</b><br>Pedro Nunes Secondary School, Lisbon<br>Concluded with an average of 17/20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## LANGUAGES

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MOTHERTONGUE: Portuguese

OTHER LANGUAGES	Understanding	Speaking	Writing
English	C2	C1+	C1+
German	B2	B2	B2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user

## COMPUTER SKILLS

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Intermediate Knowledge: R (statistical computing)

HTCondor

Monte Carlo simulation with TOPAS

L<sup>A</sup>T<sub>E</sub>X

Advanced Knowledge: Matlab

Object Orientated Programming: experience with Python

and the following packages: tensorflow, numpy,

pandas, matplotlib, pydicom

Microsoft Office, Apple Macintosh