PEDRO GONÇALO BRAVO MENDES

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PROFESSIONAL QUALIFICATIONS

Graduate Research Assistant
Institute for Software Research - Carnegie Mellon University

📅 2021-Ongoing   📍 Pittsburgh (PA, USA)

Research areas: Machine Learning, Deep Learning, Artificial Intelligence, Optimization

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Researcher
Instituto Superior Técnico/INESC-ID

📅 2020-Ongoing   📍 Lisbon (Portugal)

Project CAMELOT (autonomiC plAtform for MachinE Learning using anOnymized data): Development of a machine learning system in order to improve the efficiency of Artificial Intelligence platforms while ensuring compliance with real-time constraints during the training and inference phases of machine learning models on the cloud.

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Junior Researcher
INESC-ID

📅 2019   📍 Lisbon (Portugal)

Project SATURN: Development of two systems to optimize the allocation of cloud resources in order to minimize the execution cost and maximize the performance using subsampling techniques to reduce the amount of data over which machine learning models are trained, as a means to enhance the efficiency of model training by adjusting the subsampling rate of the input dataset to trade-off, in a controlled way, the accuracy of the resulting models and the computational demand (and, hence, the cost) of the training process.

EDUCATION

Doctor of Philosophy Degree (PhD) in Software Engineering
Carnegie Mellon University

📅 2021 - Ongoing   📍 Pittsburgh (PA, USA)

- Major Specialization Area: Machine Learning, Deep Learning, Artificial Intelligence, Optimization, and Software Engineering.

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Doctor of Philosophy Degree (PhD) in Computer Science and Engineering
Instituto Superior Técnico

📅 2020 - Ongoing   📍 Lisbon (Portugal)

- Major Specialization Area: Distributed Systems, Cloud Computing and Virtualization, Machine Learning, Optimization.

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Integrated Master's Degree (MSc) in Electrical and Computer Engineering
Instituto Superior Técnico

📅 2017 - 2019   📍 Lisbon (Portugal)

- Major Specialization Area: Computer Engineering (Distributed Systems, Computer Networks, Internet and Security).
- Secondary Specialization Area: Systems, Decision and Control (Machine Learning, Optimization and Algorithms, Autonomous Systems and Robotics).
- Final Grade of seventeen values;

Exchange Program Erasmus
Chalmers University of Technology

📅 2017 - 2018   📍 Gothenburg (Sweden)

- Main Areas of Study: Computer Networks and Communications, Distributed Systems, Computer Architecture, Computer Security, Robotics.

Bachelor's Degree in Electrical and Computer Engineering
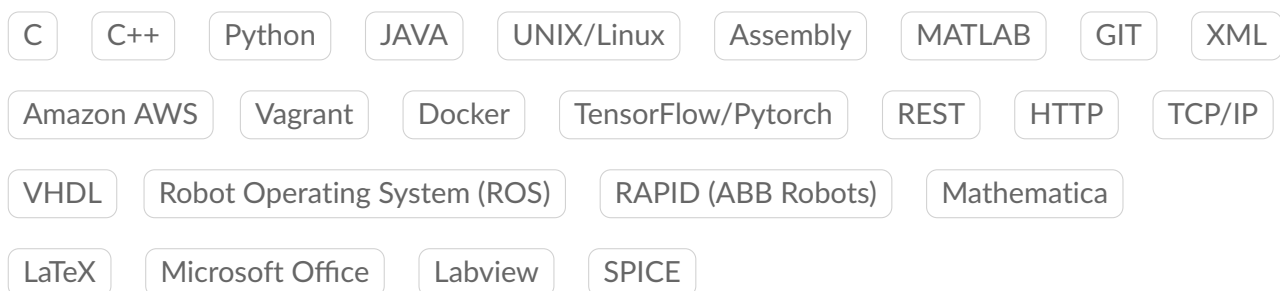**Instituto Superior Técnico**

📅 2014 - 2017   📍 Lisbon (Portugal)

- Final Grade of sixteen values;
- Main Areas of Study:
  - Calculus and Algebra;
  - Digital Systems and Computer Architecture and Design;
  - Programming, Algorithms and Data Structures and Operating Systems;
  - Electromagnetism and Optics, Theoretical Foundations of Electrical Engineering;
  - Signals and Systems and Automatic Control;
  - Fundamentals of Electrical Power Systems;
  - Electronics and Fundamentals of Telecommunications.

PROGRAMMING AND COMPUTER SKILLS

C   C++   Python   JAVA   UNIX/Linux   Assembly   MATLAB   GIT   XML

Amazon AWS   Vagrant   Docker   TensorFlow/Pytorch   REST   HTTP   TCP/IP

VHDL   Robot Operating System (ROS)   RAPID (ABB Robots)   Mathematica

LaTeX   Microsoft Office   Labview   SPICE

PUBLICATIONS

👥 Articles in Proceedings

- Mendes, Pedro, Casimiro, Maria, Romano, Paolo, and Garlan, David (2022). "HyperJump: Accelerating HyperBand via Risk Modelling". In: *AAAI23*. Washington, D.C., USA.

- Mendes, Pedro, Casimiro, Maria, Romano, Paolo, and Garlan, David (2020). "TrimTuner: Efficient Optimization of Machine Learning Jobs in the Cloud via Sub-Sampling". In: *2020 IEEE 28th International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (MASCOTS)*. Nice, France.

📕 Masters Dissertation
- Mendes, Pedro (2019). *Leveraging Subsampling Techniques to Optimize Machine Learning Jobs in the Cloud*. Lisbon, Portugal: Instituto Superior Técnico.

📄 Other Articles
- Mendes, Pedro (2022). *Exploring the Trade-offs to Train Robust Neural Models*.
- – (2021). *Hyper-Parameter Tuning using Bayesian Optimization*.

CERTIFICATIONS

Diploma of Academic Excellence level A
Instituto Superior Técnico
📅 2016/2017   📍 Lisbon (Portugal)

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Diploma of Academic Merit level B
Instituto Superior Técnico
📅 2014/2015, 2015/16, 2018/19   📍 Lisbon (Portugal)

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International English Language Testing System (IELTS) - Overall Score 7.5, CEFR Level C1
IELTS
📅 2020   📍 Lisbon (Portugal)

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Cambridge ESOL Entry Level Certificate in ESOL International (Entry 3) – Council of Europe Level B2
Cambridge School
📅 2005-2014   📍 Seia (Portugal)

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Certificate in German at level A2.1 according the Guidelines of the Common European Framework of Reference for Language (CEFR)
Language Craft
📅 2015 - 2016   📍 Lisbon (Portugal)

LANGUAGES

- Portuguese: Native speaker
- English: Proficient
- Spanish: Proficient
- German: Beginner

VOLUNTEER

Web Summit
Technology Conference
📅 2016   📍 Lisbon (Portugal)