Saúl José Rodrigues dos Santos

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EDUCATION

- **Instituto Superior Técnico - University of Lisbon** — Lisbon, Portugal
  PhD in Electrical and Computer Engineering; GPA: 18/20 — *Sept. 2023 – Present*

- **Instituto Superior Técnico - University of Lisbon** — Lisbon, Portugal
  Master's degree in Aerospace Engineering; GPA: 16/20 — *Sept. 2018 – 2020*

- **Indian Institute of Technology Madras** — Chennai, India
  Integrated Master in Aerospace Engineering; GPA: 7/10 — *Aug. 2018 – Nov. 2018*

- **Instituto Superior Técnico - University of Lisbon** — Lisbon, Portugal
  Bachelor's degree in Aerospace Engineering; GPA: 15/20 — *Sept. 2015 – July 2018*

- **Centro de Estudos de Fátima** — Fátima, Portugal
  High School - Science and Technology; GPA: 17/20 — *Sept. 2012 – Jun. 2015*

EXPERIENCE

- **Instituto de Telecomunicações** — Lisbon, Portugal
  Assistant Engineer — *Sept. 2023 - Present*
  - **ML/NLP researcher**: Research on structured memories and attention mechanism for natural language generation in the scope of DECOLLAGE project under the supervision of professor André Martins.

- **NTT DATA Europe & Latam** — Lisbon, Portugal
  Assistant Engineer — *Sept. 2022 - Sept. 2023*
  - **Data scientist in optical character recognition project**: End-to-end solution whose purpose refers to the automation of the account opening process for new customers, through the automatic reading of digitized documents and subsequent validation of the information not only between different types of documents but also between documents and a local repository of the client.

- **Institute For Systems and Robotics** — Lisbon, Portugal
  Master's Thesis Intern; GPA: 19/20 — *Jul. 2020 - May. 2022*
  - **System identification of mechanical systems using deep learning methods**: Development of physical-aware deep learning architectures for system identification of mechanical systems. The novelty resides on combining discrete variational principles with state-of-the-art deep learning techniques by means of implicit differentiation.

- **Albatroz Engenharia** — Lisbon, Portugal
  Internship — *Jul. 2019 - Sept. 2019*
  - **Hardware**: Implementation of an open glider network node in Castelo Branco aerodrome: construction and programming of a receiver for FLARM/OGN tracker equipped aircraft.
  - **Software**: Development of a support airfield web application for collision prevention and support in aircraft landing based on the receiver installed.

CERTIFICATIONS

- **Python for Data Analysis & Visualization 2022**
  Udemy — *2022*

- **Python $A - Z^{TM}$: Python For Data Science With Real Exercises!**
  Udemy — *2022*

- **Microsoft Certified: Azure Fundamentals**
  Microsoft — *2022*

- **Fundamentals of Reinforcement Learning**
  Online non-credit course authorized by University of Alberta and offered through Coursera — *2020*

- **Machine Learning**
  Online non-credit course authorized by Stanford University and offered through Coursera 2020

- **Certificate in Drone Simulation and Control**
  Instituto Superior Técnico 2018

PUBLICATIONS

- S. Santos, M. Ekal, and R. Ventura. Symplectic momentum neural networks - using discrete variational mechanics as a prior in deep learning. *In Proceedings of The 4th Annual Learning for Dynamics and Control Conference*, volume 168 of *Proceedings of Machine Learning Research*, pages 584–595.

- S. Santos, V. Niculae, D. McNamee, and A. F. T. Martins. Sparse and structured hopfield networks, 2024. arXiv preprint, https://arxiv.org/abs/2402.13725

SKILLS AND INTERESTS

- **Languages**: C, Python, Matlab, Javascript.

- **Technologies**: MS office tools (Excel, Word, Powerpoint), Sony Vegas, Adobe Photoshop, Solidworks, Autodesk Inventor, Solidedge, Latex

- **Libraries**: PyTorch, Seaborn, Matplolib, NumPy, Pandas, Scikit-Learn, SciPy.

- **Technical Skills**: Microsoft Azure.

- **Soft Skills**: Critical Thinking, Problem Solving.

- **Areas of Interest**:Avionics, Aeronautics, Space, Control, Electronics, Artificial Intelligence, Machine Learning, Deep Learning, Computer Vision, Natural Language Processing.

- **Other Interests**: Cinema, space, music, technology, sports, photography, nature, traveling.

LANGUAGES

Portuguese (mother tongue), English (fluent), French (elementary).