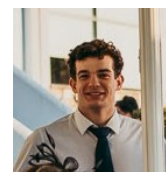


Raul Jorge Carvalho Sofia

✉ rauljcsfia@gmail.com ☎ (+351) 965 488 724

🌐 <https://raulsofia.github.io>

🆔 0000-0003-1363-5497 🏠 Google Scholar



Education

- Sept 2023 – Jan 2026 🎓 **M.Sc. Data Science and Engineering, University of Coimbra**
Thesis title: *Structure-Based De Novo Molecular Design for Drug Discovery*.
Final Grade: 17/20 | Thesis Grade: 19/20
- Sept 2020 – Jul 2023 🎓 **B.Sc. Informatics Engineering, University of Coimbra**
Completed concurrently with the B.Sc. in Biochemistry.
Final Grade: 15/20.
- Sept 2019 – Jul 2022 🎓 **B.Sc. Biochemistry, University of Coimbra**
Completed concurrently with the B.Sc. in Informatics Engineering.
Final Grade: 17/20.
- Sept 2016 – Jul 2019 🎓 **High School (Sciences and Technologies), Escola Secundária de Nelas**
Final Grade: 20/20.

Employment & Research Experience

- Jan 2026 – Jul 2026 📄 **Research Fellow (BI), LARN/CISUC, University of Coimbra**
Continued development of data processing tools, 3D CNN and GNN architectures for spatial-aware de novo Drug Design.
- Oct 2024 – Jul 2025 📄 **Research Fellow (BI), LARN/CISUC, University of Coimbra**
Development of data processing tools, 3D CNN and GNN architectures for spatial-aware de novo Drug Design.
- Oct 2021 – Mar 2022 📄 **Initiation to Research Fellow (BII), LARN/CISUC, University of Coimbra**
Development of sequence-based RNN models (LSTM) for de novo Drug Design.

Awards and Achievements

- 2025 🏆 **1st Prize BotOlympics** (Robotics Competition).
- 2023 🏆 **2nd Prize, Portuguese League of Bioinformatics** (LPB).
- 2021 🏆 **Merit Board (Top 5% Best Students), University of Coimbra**
Academic Year 2020/2021.
- 2020 🏆 **Merit Board (Top 5% Best Students), University of Coimbra**
Academic Year 2019/2020.
- 2019 🏆 **UC à Frente Prize, University of Coimbra**
Awarded for the best enrollment GPA.
- 🏆 **Portuguese Team Representative, 30th International Biology Olympiad (IBO)**
Szeged, Hungary.
- 🏆 **2nd Prize, National Biology Olympiad, Ordem dos Biólogos.**
- 2015 – 2019 🏆 **Best GPA and Merit Board, Escola Secundária de Nelas**
Awarded for best student across all years of Middle and High School.

Research Publications

Journal Articles

- 1 M. Abbasi, B. P. Santos, T. C. Pereira, **R. Sofia**, N. R. C. Monteiro, C. J. V. Simões, R. M. M. Brito, et al., "Designing optimized drug candidates with generative adversarial network," *Journal of Cheminformatics*, vol. 14, no. 40, 2022.  DOI: 10.1186/s13321-022-00623-6.
- 2 J. Sofia, **R. Sofia**, and J. Vila-Maior, "Evaluating the effect of trichoderma atroviride (i-1237) on grapevine phomopsis cane and leaf spot: A promising and reproducible trial," *Ciência e Técnica Vitivinícola*, 2024.  DOI: 10.1051/ctv/ctv2024390264.

Conferences and Posters

- 1 **R. Sofia**, M. Abbasi, and J. P. Arrais, "Usp-7 inhibitors generative model," in *VII Encontro de Jovens Investigadores em Biologia Computacional Estrutural*, Poster Presentation. <http://ejibce.github.io/>, Coimbra, Portugal, 2021.
- 2 J. Sofia, **R. Sofia**, and J. Vila-Maior, "Preliminary trial of the effect of trichoderma atroviride 1-1237 on the control of phomopsis cane and leaf spot caused by diaporthe ampelina," in *Joint IOBC-WPRS Meeting of the Working Group "Integrated Protection in Viticulture" (IOBC-WPRS 2023)*, Oral Communication. <https://www.icvv.es/english/iobc>, Logroño, Spain, 2023.

Languages

Portuguese		Native Proficiency.
English		Proficient User (C1) Cambridge First Certificate in English (FCE), Grade A.
Spanish		Proficient User (C1).
French		Independent User (B1).
Italian		Basic User.

Skills

Programming		Python, C, C++, R, Bash, Java.
AI & Machine Learning		PyTorch, TensorBoard, ONNX, Numpy, Pandas, Matplotlib.
DevOps & Deployment		Docker, Git, Linux.
Web Development		HTML, CSS, JavaScript, Django, Streamlit.
Databases		SQL (PostgreSQL), Vector DBs (ChromaDB).
Tools & Misc.		L ^A T _E X, Manim, Inkscape, PyMOL.

Miscellaneous

Certifications

Lifeguard		Certified Lifeguard (Curso de Nadador Salvador). Includes practical work experience.
Driving		Driver's License (Category A1).

Hobbies & Extracurriculars

Robotics		Robotics & Electronics. Building and programming hardware projects using microcontrollers such as Arduino and ESP.
----------	---	--

Miscellaneous (continued)

- Sports  **Kayak Polo**, Clube Fluvial de Coimbra.
Strong background in competitive sports, having previously been a registered athlete in swimming, handball, and basketball.
- Music  **Double Bass & Coimbra Guitar.**
Completed formal training in Double Bass and actively plays the traditional Coimbra Guitar, alongside other string instruments.