

# Paulo Eduardo Rauber

London, 2020  
p.rauber@qmul.ac.uk  
paulorauber.com

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## Research interests

Artificial Intelligence, Machine Learning, Reinforcement Learning.

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## Background

- 2020– **Lecturer in Artificial Intelligence**, *Game AI Research Group, Queen Mary University of London (United Kingdom)*.
- 2017–2020 **Postdoctoral Researcher**, *Swiss AI Lab (Switzerland)*.  
Supervisor: Jürgen Schmidhuber.
- 2012–2017 **PhD in Computer Science**, *Joint degree at University of Campinas (Brazil) and University of Groningen (Netherlands)*.  
Supervisors: A.X. Falcão, A.C. Telea, P.J. de Rezende, and J.B.T.M. Roerdink.  
*Admitted in first place to MSc program and consequently invited to PhD program.*
- 2008–2011 **BSc in Computer Science**, *Federal University of Santa Catarina (Brazil)*.  
*More than three standard deviations above the mean on national graduate school admission exam.*

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## Selected papers

- 2020 P. Rauber\*, A. Ramesh\*, and J. Schmidhuber, "*Recurrent Neural-Linear Posterior Sampling for Non-Stationary Contextual Bandits*", arXiv preprint.
- 2019 P. Rauber, A. Ummadisingu, F. Mutz, and J. Schmidhuber, "*Hindsight Policy Gradients*", International Conference on Learning Representations (ICLR).
- 2017 P. E. Rauber, S. G. Fadel, A. X. Falcão, and A. C. Telea, "*Visualizing the Hidden Activity of Artificial Neural Networks*", IEEE Transactions on Visualization and Computer Graphics (TVCG, Proceedings of Visual Analytics Science and Technology 2016).
- 2017 J.F. Kruiger, P. E. Rauber, R. M. Martins, A. Kerren, S. Kobourov, and A. C. Telea, "*Graph Layouts by t-SNE*", Computer Graphics Forum (CGF, Proceedings of EuroVis 2017).
- 2017 P. E. Rauber, A. X. Falcão, and A. C. Telea, "*Projections as Visual Aids for Classification System Design*", Information Visualization.
- 2016 P. E. Rauber, A. X. Falcão, and A. C. Telea, "*Visualizing Time-Dependent Data Using Dynamic t-SNE*", EuroVis Short Papers. **Honorable mention.**
- 2013 P. E. Rauber, A. X. Falcão, T. V. Spina, and P. J. de Rezende, "*Interactive Segmentation by Image Foresting Transform on Superpixel Graphs*", SIBGRAPI.

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## Teaching

- 2017, 2018, 2019 **Deep Learning Lab**, *an introduction to deep learning using TensorFlow (3 ECTS)*.  
*Student satisfaction (2019): mean 9.07/10, median 10/10.*

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## Supervision

- 2019– A. Ramesh, "*Recurrent Neural-Linear Posterior Sampling for Contextual Bandits*", MSc thesis, University of Italian Switzerland, 2019. Supervisors: J. Schmidhuber and P. Rauber.
- 2018 A. Ummadisingu, "*Improving Sample Efficiency in Hindsight Policy Gradients*", MSc thesis, University of Italian Switzerland, 2018. Supervisors: J. Schmidhuber and P. Rauber.

- 2016 J.F. Krüger, "*Graph Layouts by t-Distributed Stochastic Neighbor Embedding*", MSc thesis, University of Groningen, 2016. Supervisors: A.C. Telea and P.E. Rauber.
- 2015 F. Heikamp, "*Comparison of Feature Selection Techniques in Real and Synthetic Data*", BSc thesis, University of Groningen, 2015. Supervisors: A.C. Telea and P.E. Rauber.
- 2015 S. Feringa, "*Comparison of Features Used in Automatic Skin Lesion Classification*", MSc thesis, University of Groningen, 2015. Supervisors: A.C. Telea and M.H.F. Wilkinson. Advisor: P.E. Rauber.

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## Grant writing

- 2019 Developed a proposal accepted by the Swiss National Science Foundation with two colleagues from the Swiss AI Lab (NEUSYM, approx. 700,000 USD).

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## Skills

- Languages Portuguese and English.
- Programming Python (NumPy, TensorFlow) and C++ on GNU/Linux.

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## Personal

- Born 1989, Brazil.