

1 Personal Information

Position : Senior Research Scientist, *DeepMind, London, U.K.*
Email : iassael@gmail.com
Website : <http://www.assael.gr>

2 Education

- 2015 - 2020 : **DPhil in Machine Learning**
University of Oxford, Oxford, U.K.
Supervisor: Nando de Freitas, Shimon Whiteson
- Oxford – Google DeepMind Graduate Scholarship
- 2014 - 2015 : **MRes in Machine Learning (Distinction, 81.8%, 2nd best overall performance)**
Imperial College London, U.K.
Supervisor: Marc P. Deisenroth
- HiPEDS Scholarship (EPSRC)
- 2013 - 2014 : **MSc in Computer Science (Distinction, 83.5%, best overall performance)**
University of Oxford, Oxford, U.K.
Supervisor: Nando de Freitas
- Tony Hoare Prize for best overall performance in the MSc in Computer Science 2014
- Hellenic State Scholarships Foundation
- 2008 - 2013 : **Diploma of Applied Informatics [4-Years] (83.7%)**
University of Macedonia, Thessaloniki, Greece
Supervisor: Konstantinos G. Margaritis
- 2011 : **Security in IT Summer School [ECTS 7.5] (Distinction, A)**
Engineering College of Copenhagen (IHK), Denmark
- 2002 - 2008 : **High School (17.8 / 20)**
American College Anatolia, Thessaloniki, Greece

3 Work Experience

- 2017 - : **DeepMind** - www.deepmind.com
Senior Research Scientist.
- 2017 : **LipNet Artificial Intelligence Inc** - www.lipnet.ai
CEO/Founder, revolutionizing speech recognition with automated lipreading.
- 2015 - : **AccuInstruments** - www.accuinstruments.com
Director/Founder, using Machine Learning to improve accuracy and performance of scientific measurement instruments. (Deep Blue Labs Ltd.)
- 2016 : **Legend 3D Inc** - www.legend3d.com
Machine learning consulting for VR, 3D conversion, and visual effects studio.
- 2014 : **Ocado.com** - www.ocado.com
Cyber Security Consultant.
- 2013 - 2014 : **Tessera Multimedia SA** - www.tessera.gr
Lead Developer on Finite Elements Design and Analysis, developing software to simulate heat conduction of fluids and solids.
- 2011 - 2013 : **PinApps.com Mobile Applications Development** - www.pinapps.com
Senior Mobile Application Developer.
- 2007 - : **Freelancer** - www.assael.gr
Undertaking freelance projects.

4 Scholarships

- 4.1 **Oxford - Google DeepMind Graduate Scholarship** full scholarship for DPhil in Machine Learning, 2015 - 2018.
- 4.2 **Imperial College London** full scholarship for MRes program of “HiPEDS”, 2014-2015.
- 4.3 **Hellenic State Scholarships Foundation** full scholarship for MSc in University of Oxford, 2013-2014.
- 4.4 **Advanced Training in Open Source Multimedia Instruments**, Blender 3D Design, European Union Media Program Scholarship, Oct. 26 - 1 Nov., 2011 - Sofia, Bulgaria
- 4.5 **Training in Open Source Multimedia Instruments**, Blender 3D Design, European Union Media Program Scholarship, Aug. 16-21, 2010 - Sofia, Bulgaria.

5 Honors & Awards

- 5.1 Distinction in MRes in Machine Learning, Imperial College London, 2015.
- 5.2 Tony Hoare Prize for “Best overall performance in the MSc in Computer Science”, University of Oxford, 2014.
- 5.3 Distinction in MSc in Computer Science, University of Oxford, 2014.
- 5.4 1st place out of 77 teams, in the University of Oxford: Machine Learning Competition, Michaelmas 2013. <http://goo.gl/ePvgjo>
- 5.5 Distinction in Security in IT, Summer School of Copenhagen University College of Engineering (IHK), Copenhagen, Denmark, 2011.
- 5.6 3rd place in the HTC “Grand” Competition, a competition for Google Android developers, under the “airquality.gr” application, 2010.

6 Published Work

- 6.1 Y. Assael, T. Sommerschield, and J. Prag. Restoring ancient text using deep learning: a case study on Greek epigraphy. In *Empirical Methods in Natural Language Processing*, 2019.
- 6.2 T. Makino, H. Liao, Y. Assael, B. Shillingford, B. Garcia, O. Braga, and O. Siohan. Recurrent neural network transducer for audio-visual speech recognition. In *IEEE Automatic Speech Recognition and Understanding Workshop*. IEEE, 2019.
- 6.3 B. Shillingford, Y. Assael, and M. Denil. Interactive decoding of words from visual speech recognition models. In *arXiv preprint*, 2019.
- 6.4 A. Gupta, B. Shillingford, Y. Assael, and T. C. Walters. Speech bandwidth extension with WaveNet. In *IEEE Workshop on Applications of Signal Processing to Audio and Acoustics*. IEEE, 2019.
- 6.5 B. Shillingford, Y. Assael, M. W. Hoffman, T. Paine, C. Hughes, U. Prabhu, H. Liao, H. Sak, K. Rao, L. Bennett, M. Mulville, M. Denil, B. Coppin, B. Laurie, A. Senior, and N. de Freitas. Large-scale visual speech recognition. In *INTERSPEECH*, 2019.
- 6.6 Y. Chen, Y. Assael, B. Shillingford, D. Budden, S. Reed, H. Zen, Q. Wang, L. C. Cobo, A. Trask, B. Laurie, C. Gulcehre, A. van den Oord, O. Vinyals, and N. de Freitas. Sample efficient adaptive text-to-speech. In *International Conference on Learning Representations*, 2019.
- 6.7 N. D. Goumagias, D. Hristu-Varsakelis, and Y. Assael. Using deep Q-learning to understand the tax evasion behavior of risk-averse firms. *Expert Systems with Applications*, 101:258–270, 2018.
- 6.8 Y. Assael, K. D. Antoniadis, and M. J. Assael. From analog timers to the era of machine learning: The case of the transient hot-wire technique. In *Thermophysics*, 1866:020001, 2017.

- 6.9 R. Ponte Costa, Y. Assael, B. Shillingford, N. de Freitas, and T. Vogels. Cortical microcircuits as gated-recurrent neural networks. In *Advances in Neural Information Processing Systems*, 272–283, 2017.
- 6.10 Y. Assael, B. Shillingford, S. Whiteson, and N. de Freitas. LipNet: End-to-end sentence-level lipreading. In *GPU Technology Conference*, 2017.
- 6.11 H. Mossalam, Y. Assael, D. M. Roijers, and S. Whiteson. Multi-objective deep reinforcement learning. In *Advances in Neural Information Processing Systems Deep Reinforcement Learning Workshop*, 2016.
- 6.12 J. N. Foerster, Y. Assael, N. de Freitas, and S. Whiteson. Learning to communicate with deep multi-agent reinforcement learning. In *Advances in Neural Information Processing Systems*, 2137–2145, 2016.
- 6.13 J. N. Foerster, Y. Assael, N. de Freitas, and S. Whiteson. Learning to communicate to solve riddles with deep distributed recurrent Q-networks. In *International Joint Conference on Artificial Intelligence Workshop*, 2016.
- 6.14 Y. M. Assael, N. Wahlström, T. Schön, and M. P. Deisenroth. Data-Efficient Learning of Feedback Policies from Image Pixels using Deep Dynamical Models. In *Advances in Neural Information Processing Systems Deep Reinforcement Learning Workshop*, 2015.
- 6.15 Y. M. Assael, Z. Wang, and N. de Freitas. Heteroscedastic Treed Bayesian Optimisation. In *Advances in Neural Information Processing Systems Workshop on Bayesian Optimisation*, 2014.
- 6.16 C. S. Kouzinopoulos, Y. M. Assael, T. K. Pyrgiotis, and K. G. Margaritis. A Hybrid Parallel Implementation of the Aho-Corasick and Wu-Manber Algorithms Using NVIDIA CUDA and MPI Evaluated on a Biological Sequence Database. In *International Journal on Artificial Intelligence Tools*, 24(1), 2015.
- 6.17 M. J. Assael, K. D. Antoniadis, I. N. Metaxa, S. K. Mylona, G. Matziaroglou, V. Efopoulos, Y. M. Assael, K. Marini, J. Wu, and M. Hu. A novel portable absolute two-wires Transient Hot-Wire instrument for the measurement of the thermal conductivity of solids. In *European Conference on Thermophysical Properties*, 2014.
- 6.18 M.J. Assael, Y. M. Assael, M. L. Huber, R. A. Perkins, and Y. Takata. Correlation of the Thermal Conductivity of Normal and Parahydrogen from the Triple Point to 1000 K and up to 100 MPa. In *Journal of Physical and Chemical Reference Data*, 40(3), 2011.
- 6.19 M.J. Assael, K.E. Kakosimos, K.D. Antoniadis, and Y. M. Assael. Applying Thermal Comfort Indices to Investigate Aspects of the Climate Change in Greece. In *International Review of Chemical Engineering*, 2:204-209, 2010.
- 6.20 M.J. Assael, K.E. Kakosimos, A. Alexandridis, and Y. M. Assael. Study and Application of Discomfort Indices in Greece. In *National Scientific Chemical Engineering Conference, Greece*, 2009.
- 6.21 M.J. Assael, Y. M. Assael, and K. Kakosimos. Discomfort Indices - www.airquality.gr. In *Technographima (Journal of the Technical Chamber of Greece)* 362:12-13, 2008.

Further details: <https://scholar.google.co.uk/citations?user=DwHtHE8AAAAJ>

7 Patents

- 7.1 B. Shillingford, I. A. Assael, and J. F. Gomes De Freitas. Visual speech recognition by phoneme prediction. WO Patent 219968A1, 2019.
- 7.2 J. N. Foerster, and I. A. Assael. Resolving time-delays using generative models. US Patent 0369946A1, 2019.

8 Invited Lectures

- 8.1 “You, your research, and AI” – *Center for Talented Youth*, Anatolia College, Thessaloniki, Greece, 2019/07.
- 8.2 “Tuesday Night from Oxford: Machine Learning” – Department of Applied Informatics, University of Macedonia, Greece, 2019/05.
- 8.3 “Graduation ceremony” – Department of Applied Informatics, University of Macedonia, Greece, 2019/05.

- 8.4 “Deep Learning: Keep calm and lower your learning rate” – *Graduate Open Day*, Department of computer science, University of Oxford, UK, 2018/11.
- 8.5 “Deep Reinforcement learning: a case study on tax evasion” – *Financial Conduct Authority*, London, UK, 2018/10.
- 8.6 “Artificial Intelligence in Tomorrows World” - *Anatolia College Science & Technology Annual Conference*, Anatolia College, Thessaloniki, Greece, 2017/11.
- 8.7 “Machine Learning: Keep calm and lower your learning rate” – *Graduate Open Day*, Department of computer science, University of Oxford, UK, 2017/11.
- 8.8 “Studying Computer Science at Oxford” - *Oxford Study Programme*, Summit Education Enterprise, Merton College, Oxford, UK, 2017/2.
- 8.9 “Machine Learning: Keep calm and lower your learning rate” – *Graduate Open Day*, Department of computer science, University of Oxford, UK, 2016/11.
- 8.10 “Deep Learning using Torch”, IT training sessions for exceptional students, *Safemarket Ltd.*, Thessaloniki, Greece, 2016/1.
- 8.11 “Are you M.A.D. enough for the market? (Mobile Application Development)”, Money Show 2013, *Applied Informatics in an environment of technology, knowledge, entrepreneurship & innovation*, Hyatt Regency, Thessaloniki, Greece, 2013/4.
- 8.12 “I want to study abroad!”, Career Office, University of Macedonia, Thessaloniki, Greece, 2013/4.
- 8.13 “Mobile Application Development”, “*Mobile*” Career - *Employment outlook in the area of Mobile Computing*, Department of Technology Management, University of Macedonia, Naousa, Greece, 2013/3.

9 Information Technology knowledge

- Machine Learning : TensorFlow, PyTorch, JAX
- Languages : C, C++, C#, Fortran, Java, JavaScript, PHP, Lua, Python, R, SQL
- HPC : CUDA, OpenCL, MPI
- Maths : Matlab, Mathematica, Finite Elements FiPy Python Library
- Mobile : Android, iOS development
- 3D Design : Blender, Autodesk 3D Studio Max
- Graphics : Adobe Photoshop, Adobe Illustrator
- Audio : Steinberg’s Cubase, Ableton Live
- Multimedia : Final Cut Pro, Articulate Storyline
- Web : Web Development (PHP, JS, SQL) and Web Design

10 Other interests

- Group leader in YMCA Summer Camp in Pelion, Greece (2007 - 2013)
- Bass Guitar player in musicals and bands
- Photography