

# IVÁN VALLÉS PÉREZ

Applied Scientist at Alexa AI and part time PhD student in Deep Learning at University of Valencia. Proactive, with a clear interest in state-of-the-art research.

**Looking for a Research Scientist position.**

**phone:** +44 (0) 7899 865 681  
**mail:** [ivanvallesperez@gmail.com](mailto:ivanvallesperez@gmail.com)  
**chime & skype:** @ivallesp  
**addr.:** Cambridge (UK)

**gh:** [github.com/ivallesp](https://github.com/ivallesp)  
**kaggle:** [kaggle.com/ivallesp](https://kaggle.com/ivallesp)  
**so:** [stackoverflow.com/u/3742686](https://stackoverflow.com/u/3742686)  
**lkdn:** [linkedin.com/in/ivallesp](https://linkedin.com/in/ivallesp)

## WORK EXPERIENCE

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**09.2020 - Present | Applied Scientist at Alexa AI Text-To-Speech team | Cambridge, United Kingdom**

- Research line: probabilistic modelling of found speech data.
- Worked with normalizing flows, and other deep learning generative models.

**04.2019 - 09.2020 | Senior Data Scientist at Amazon Supply Chain Science team | Luxembourg, Luxembourg**

- First team member, in charge of bringing the (deep) ML expertise to EU Supply Chain teams.
- Developed a ML solution to daily forecast the inbound demand at warehouse level for all EU.
- Currently developing a Deep Reinforcement Learning algorithm for improving speed through inventory proactive transfers.

**06.2013 - Present | AI Researcher & PhD student at Intelligent Data Analysis Laboratory (UV) | Valencia, Spain**

- Involved in several research lines related to Deep Learning and Deep Reinforcement Learning algorithms.
- Currently engaged in a PhD program as a side activity (since 2018)

**06.2016 - 02.2019 | Senior Data Scientist at McKinsey & Company | Madrid, Spain**

- Developed machine learning solutions for more than 10 clients around the globe belonging to 5 different industries.
- Developed 5 new applications for our clients using state-of-the-art Deep Learning techniques.
- Lead teams up to 10 data scientists and data engineers.

**11.2014 - 06.2016 | Lead Data Scientist at Quarizmi AdTech | Valencia, Spain**

- Used Machine Learning and NLP techniques to generate and maintain digital marketing campaigns in Google Adwords.

**05.2014 - 11.2014 | Data Scientist at Psychology department of University of Valencia | Valencia, Spain**

- Analyzed data coming from clinical psychology studies using advanced Machine Learning techniques

## ACADEMIC HISTORY

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**2018-Present | Ph.D. in Deep Learning algorithms and applications | University of Valencia, Spain**

**2016-2018 | M.Sc. Languages and Computer Science Systems (NLP) | UNED, Spain**

**2009-2013 | B.Eng. Electronics of Telecommunications | University of Valencia, Spain**

## FURTHER EDUCATION

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**2018 | Deep Reinforcement Learning Nanodegree | Udacity**

**2018 | Practical Reinforcement Learning | National Research University Higher School of Economics, Coursera**

**2017 | Deep Learning Specialization | Andrew Ng, Coursera**

**2017 | Neural Networks and Machine Learning | Geoffrey Hinton, Coursera**

... more than 30 additional MOOCs and online courses from Coursera, EdX, Udacity and Stanford Lagunita

## PROJECTS AND ACHIEVEMENTS

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**06.2018 | Generative Adversarial Networks for text generation | M.Sc. thesis | Mark: 4/4**

- Free text generation using Generative Adversarial Networks. The algorithm proposed was able to generate free text by combining a seq2seq and convolutional architecture with GP-GANs. Link: [www.uv.es/ivape3/memoria\\_tfm.pdf](http://www.uv.es/ivape3/memoria_tfm.pdf)

**11.2012 | Application of Genetic Algorithms to Extreme Learning Machine | B.Eng. thesis | Mark: 3.7/4**

- Developed the Genetic ELM algorithm: using Genetic Algorithms as an alternative method to Moore-Penrose pseudo-inverse for training shallow neural networks. Link: [www.uv.es/ivape3/memoria\\_pfc.pdf](http://www.uv.es/ivape3/memoria_pfc.pdf)

**Open Source Contributions to machine learning related projects**

- Contributed to large open source Python libraries in GitHub: *google tensorflow*, *scikit-learn*, *pandas*, *xgboost*, *sompy*, ...
- Developed the *somnia* library for running Self-Organising Maps in Python. Available in my GitHub.

**Kaggle competitions:** BNP: 22nd/2947 | Santander product recommendation: 22nd/1787 | Springleaf: 76th/2225.

**Attendance at research conferences:** NIPS 2016, NIPS 2017, NeurIPS 2018 and NeurIPS 2022 among others.

## SKILLS

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**Coding:** Python (w/ Pytorch, Tensorflow, MxNet, Stable baselines and Ray+RLlib), Rust, Bash, R, Matlab, L<sup>A</sup>T<sub>E</sub>X, SQL, C++, Git & Mercurial, Docker

**Cloud:** Apache Spark, Redis, Amazon Web Services, Google Cloud, Terraform

**Languages:** native in Spanish and Catalan. Advanced in English.

- 2022 | Stutter-TTS: Controlled synthesis and improved recognition of stuttered speech** , *Neural Information Processing Systems*, Xin Zhang, Iván Vallés-Pérez, Andreas Stolcke, Chengzhu Yu, Jasha Droppo, Olabanji Shonibare, Roberto Barra-Chicote, Venkatesh Ravichandran
- 2022 (submitted) | Empirical study of the modulus as activation function in computer vision applications**, *Engineering Applications of AI*, I. Vallés-Pérez, E. Soria-Olivas, M. Martínez-Sober, A. J. Serrano-López, J. Vila-Francés, J. Gómez-Sanchís
- 2022 (submitted) | Distilling the Knowledge of Pre-trained Models**, *Journal of Computational Science*, I. Vallés-Pérez, E. Soria-Olivas, J. Gómez-Sanchís, M. Martínez-Sober, F. Mateo, J. Vila-Francés
- 2022 | Approaching sales forecasting using recurrent neural networks and transformers**, *Expert Systems with Applications*, I. Vallés-Pérez, E. Soria-Olivas, M. Martínez-Sober, A. J. Serrano-López, J. Gómez-Sanchís, F. Mateo
- 2021 | End-to-end Keyword Spotting using Xception-1d**, *ESANN*, I. Vallés-Pérez, F. Mateo, J. Vila-Francés, A. J. Serrano-López, E. Soria-Olivas
- 2021 | Improving multi-speaker TTS prosody variance with a residual encoder and normalizing flows**, *InterSpeech*, I. Vallés-Pérez, J. Roth, G. Beringer, R. Barra-Chicote, J. Droppo
- 2014 | Visual Data Mining With Self-Organizing Maps for “Self-monitoring” Data Analysis**, *Sociological Methods & Research*, E. Oliver-Gasch, I. Vallés-Pérez, R.M. Baños-Rivera, A.J. Cebolla-Martí, C. Botella-Arbona, E. Soria-Olivas
- 2014 | Self-Organizing Maps in the analysis of EMAs in a treatment for childhood obesity treatment**, *International Society for Research on Internet Intervention (ISRII)*, R. Baños, E. Oliver, A.J. Cebolla, I. Vallés, E. Soria, C. Botella