

IVÁN VALLÉS PÉREZ

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

Looking for a Research Scientist position.

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WORK EXPERIENCE

05.2023 - Present | Senior Applied Scientist at Amzon AGI - Alexa speech generation team | Cambridge, UK
· Tech lead of the Alexa low-latency LLM-based speech generation model, leading the research and supporting productionization.

09.2020 - 05.2023 | Applied Scientist at Amzon AGI - Alexa speech generation team | Cambridge, UK
· Research line: probabilistic modelling of found speech data.
· Worked with normalizing flows, GANs, diffusion models, LLMs, 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.
· Built 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 low-resource Deep Learning and Deep Reinforcement Learning algorithms.

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

2018-2023 | Ph.D. in low resource Deep Learning | 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

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

02.2023 | Contributions and applications around low resource deep learning | Ph.D. thesis | Unanimous cum laude
· Scientific contributions to deep learning with limited resources. Link: <https://roderic.uv.es/handle/10550/85791>
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
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

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: NeurIPS 2016, 2017, 2018, 2022, ESANN 2021, ECAI 2023.

SKILLS

Coding: Python (w/ Pytorch, Tensorflow, MxNet, Stable baselines and Ray+RLLib), Rust, Bash, Godot, R, Matlab, L^AT_EX, SQL, C++, Git & Mercurial, Docker

Cloud: Amazon Web Services, Google Cloud, Distributed computation, Microsoft DeepSpeed, Apache Spark

Languages: native in Spanish and Catalan. Professional proficiency in English.

Referees, references, recommendation letters and additional information will be provided upon request.

- 2023 | SCRAPs: Speech Contrastive Representations of Acoustic and Phonetic Spaces** , *European Conference on Artificial Intelligence*, I. Vallés-Pérez, G. Beringer, P. Bilinski, G. Cook, R. Barra-Chicote
- 2023 | 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 | Stutter-TTS: Controlled synthesis and improved recognition of stuttered speech** , *Neural Information Processing Systems*, X. Zhang, I. Vallés-Pérez, A. Stolcke, C. Yu, J. Droppo, O. Shonibare, R. Barra-Chicote, V. Ravichandran
- 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**, *European Symposium of Artificial Neural Networks*, 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 (SOM) 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