Alberto González Olmos

Insightful Data Scientist

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About me: Seeking an AI/ Data Science position to leverage my expertise in machine learning, data analysis, and research at Salling. By working on diverse and challenging problems, I have gained experience in understanding complex topics and in applying a wide range of AI and machine learning techniques. I thrive in fast-paced, multidisciplinary projects, working with people of different backgrounds, and am committed to ongoing personal and professional development. I am ready to start working immediately.

Work Experience

Data Science Associate **ug 2023 - Dec 2023**
Meddoc Flow ApS. *remote*
Field: Machine Learning & AI

- Coordinating with start-ups going through the medical device certification process to design and implement a chatbot to answer questions about the European Medical Device Regulation (MDR).
- Developed back-end scripts in Python to get MDR queries and find the answer using RAG, the Milvus vector database, OpenAI's API and prompt engineering.

PhD student **ep 2021 - writing phase**
Department of Clinical Medicine, Aarhus University *Aarhus, Denmark*
Field: Machine Learning & Hypertension
Status: All data collected and analyzed. I am finishing writing the thesis in my spare time.

- Developed new time-series analysis of contrast for laser speckle contrast imaging (LSCI) and improved the optical system.

Machine Learning internship **ul 2019 - Sep 2019**
Telefónica Alpha, Health Moonshot *Barcelona, Spain*
Field: Machine Learning & Human Computer Interaction

- Performed data exploration and correlation analysis of behavioural data coming from phone sensors, electrodermal activity from empatica's wristband and self reported questionnaires from the phone.

Marie Curie Early Stage Researcher **ar 2017 - Apr 2020**
Department of Computing Science, University of Glasgow *Glasgow, Scotland*
Field: Machine Learning & Human-Computer Interaction

- Developed novel algorithms in Python and Matlab to map electrodermal activity to vibrotactile cues using self-organizing maps, clustering, and psychophysics.

Biomedical Engineer **ar 2015 - Apr 2017**
Max-Plank Institute for Metabolism Research *Cologne, Germany*
Field: MRI & fMRI analysis

- Applied segmentation algorithms to MRI images.
- Investigated sources of noise with ICA analysis, which resulted in the successful debugging and completion of the project.

Skills

Languages	Python, SQL, JavaScript, Docker, C, Matlab, Git, LaTeX, Unix, R, Bash
Data Science	Machine Learning: scikit-learn, scipy, pandas, Numpy, Pytorch, Tensorflow. Data Visualization: matplotlib, plotly-dash, folium. Front-end: React.
Communication	Spanish (native), English (TOEFL:108/120), Danish (module 3), German (A2)
Softer skills	Excellent team-player and communicating across stakeholders with diverse backgroun cational levels.

Education

PhD. Clinical Medicine, *Aarhus University* writing phase
Thesis: Characterizing hypertension in the microcirculation using laser speckle contrast imaging
Awards:

- Patent co-author: González Olmos A, Postnov DD. High-speed laser speckle contrast imaging. Patent pending, application number EP 22173808. 2022

MSc. Biomedical Engineering, *University of Barcelona* Sep 2014
Thesis: Bias-Variance trade-off in the detection of emotions using electroencephalogram
BE. Electronics Engineering, *Politecnic University of Cartagena* Oct 2010
Thesis: Biomimetic-polymers control system
Awards:

- Recognition of outstanding bachelor thesis. Top 1% in the university. *Politecnic University of Cartagena*
- Winner of national thesis award in Electrical Engineering. Top 1% in Spain. *Spanish School of Engineering*
- Finalist of bachelor thesis award. *Universia-Vodafone Foundation*

Courses

Advanced React, *Meta* 2023
Data Science, *IBM professional certificate* 2023
Machine learning and computer vision, *Aarhus University* 2020
grade: 12
Innovation in Engineering, *Aarhus University* 2020
grade: 10
Summer School in Computational Interaction, *University of Cambridge* 2018
fMRI analysis, *Max Plank Institute for Human Cognitive and Brain Science* 2016
Machine Learning specialization, *Coursera* 2014

Publications

Lossless temporal contrast analysis of laser speckle images from periodic signals *Alberto González Olmos, Zaka Humlesen, Vladimir Matchkov, and Dmitry D. Postnov* Biomedical Optics Express. 2023
Topic: Improved time-series analysis of LSCI.
Optimizing precision of laser speckle contrast imaging *Alberto González Olmos, Sharvari Zipelwar, Smrithi Sunil, David A. Boas, Dmitry D. Postnov* Scientific Reports. 2023
Topic: Analysis of the optical system's parameters by analyzing contrast statistics.
Augmenting the perception of other's anxiety with subliminal interfaces *Alberto González Olmos, Stephen Brewster* 3rd Symposium on Computing and Mental Health. CHI conference, Montreal. 2018
Topic: Exploration of mapping electrodermal activity to vibrotactile cues to represent states of arousal.

Hobbies

I love creating with my two children and my wife and socializing with co-workers. We recently bought a house in Lystrup. We are settling in Denmark and learning Danish. I also enjoy running and team sports, especially badminton, football and board games with my friends and family.