

Alberto González Olmos

Insightful Data Scientist

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Profile: Seeking an AI/ Data Science position to leverage my expertise in machine learning, data analysis, and research. 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

Machine Learning Internship

Jan 2024 - present

ExSeed Health

remote

Field: Machine Learning & Computer Vision

- Mining features (segmentation and tracking) of human sperm cells and analysis of sperm quality.
- Using PyTorch, OpenCV, CVAT for model development and AWS (SageMaker, DynamoDB and S3) for model deployment.

Data Science Associate

Aug 2023 - Dec 2023

Meddoc Flow ApS.

remote

Field: Machine Learning & AI

- Developed back-end scripts in Python to get Medical Device Regulation queries and find the answer using vector embeddings and similarity search in Milvus.

PhD student

Sep 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

Jul 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**Mar 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**Mar 2015 - Apr 2017***Max-Planck 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.

Machine Learning Research Fellowship**Mar 2013 - Apr 2014***Department of Mathematics, University of Barcelona**Barcelona, Spain*

Field: Machine Learning & Atherosclerosis

- Implemented new metrics and alignment algorithms based on the Hausdorff distance and the SIFT method for the alignment of Intravascular Ultrasound sequences.

SKILLS

Programming	Python, SQL, JavaScript, Docker, C, Matlab, Git, L ^A T _E X, Unix, R, Bash
Data Science	<i>ML</i> : scikit-learn, scipy, pandas, Numpy, PyTorch, Tensorflow, OpenCV, CVAT. <i>NLP</i> : sentence-transformers, LlamaIndex, Truera, openAI. <i>Data Visualization</i> : matplotlib, plotly-dash, folium. <i>Front-end</i> : React.
Languages	Spanish (native), English (TOEFL:108/120), Danish (module 3), German(A2)
Soft skills	I am good at working in teams and communicating across stakeholders with diverse backgrounds and educational 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, Politecnico University of Cartagena

Oct 2010

Thesis: Biomimetic-polymers control system

Awards:

- Recognition of outstanding bachelor thesis. Top 1% in the university. *Politecnico 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 , <i>Meta, Coursera</i>	2023
AI Engineering , <i>IBM professional certificate, Coursera</i>	2023
Data Science , <i>IBM professional certificate, Coursera</i>	2023
Machine learning and computer vision , <i>Aarhus University</i>	2020
grade: 12	
Innovation in Engineering , <i>Aarhus University</i>	2020
grade: 10	
Summer School in Computational Interaction , <i>University of Cambridge</i>	2018
fMRI analysis , <i>Max Plank Institute for Human Cognitive and Brain Science</i>	2016
Machine Learning specialization , <i>Coursera</i>	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.