

# 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 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

**Aug 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

**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***Max-Planck Institute for Metabolism Research*

Field: MRI &amp; fMRI analysis

**Mar 2015 - Apr 2017***Cologne, Germany*

- 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***Department of Mathematics, University of Barcelona*

Field: Machine Learning &amp; Atherosclerosis

**Mar 2013 - Apr 2014***Barcelona, Spain*

- Implemented new metrics and alignment algorithms based on the Hausdorff distance and the SIFT method.

**SKILLS****Programming** Python, SQL, JavaScript, Docker, C, Matlab, Git, L<sup>A</sup>T<sub>E</sub>X, Unix, R, Bash**Data Science** *ML:* scikit-learn, scipy, pandas, Numpy, PyTorch, Tensorflow.*NLP:* sentence-transformers, LlamaIndex, Truera, openAI.*Data Visualization:* matplotlib, plotly-dash, folium.*Front-end:* 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

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