

Aina Tersol

Machine Learning Data Scientist

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SUMMARY

Results-oriented Machine Learning Data Scientist. I have a deep passion, commitment, and enthusiasm for the work I do. I believe in a practical approach to research; building solutions to real-world problems.

TECHNICAL SKILLS

Languages and Frameworks: Python, Pytorch, Keras SQL, Postgres, C, C#, C++

Developer Tools: Git, Docker, Amazon Web Services

EXPERIENCE

LXAI Chair

Mar 2024 – Current

LatinX in AI

Global

- Spearhead the coordination of the International Conference on Machine Learning (ICML) 2024 initiatives within the Latinx AI community

Machine Learning Data Scientist

Nov 2022 - Current

SignalPET

San Diego, USA

- ML Engineering – Architected and optimized machine learning pipelines, leading efforts in model inference, deployment, and management to support robust AI solutions. Resulted in a production inference API
- AI Research on AI interpretability and Multimodal systems. Implemented state-of-the-art deep learning algorithms (ConvNexT, LLaVA, and Large Language Models), translating academic insights into practical, scalable solutions. Resulted in a NeurIPS paper.
- Data Engineering – Spearheaded data engineering initiatives to build and maintain scalable, efficient databases, ensuring data integrity and availability for mission-critical applications. Resulted in a Postgres vector database and a new data pipeline for production inference integrated into the system.

Machine Learning Analyst

Jan 2022 - Nov 2022

SignalPET

San Diego, USA

- Built, maintained, and monitored 80+ classification and segmentation ML models to identify veterinary pathologies. These models became the basis of SignalPET's product.
- Define AI R&D KPIs and present them in company meetings. Coordination across medical and technical teams.

Research Assistant

May 2021 - Jan 2022

Johns Hopkins University

Baltimore, USA

- Surgical instrumentation segmentation Neural Network (U-Net) for image-guided surgery tool-tip tracking.
- Traditional image processing - Image registration for brain motion artifact correction and image reconstruction using Filtered Back-projection

Project Manager

Jun 2020 - Jan 2021

UniversalDoctor

Barcelona, Spain

- Skin Lesion Segmentation and Classification Neural Network (FCN) for diagnosis in underdeveloped countries. This resulted in a new application in collaboration with WHO.

Associate Software Engineer

Oct 2019 - Jul 2020

GRIFOLS

Barcelona, Spain

- Designed, defined, and reviewed test protocols for FDA-approved medical devices. Built a new simulation tool in C# that sped up testing by 80%.

EDUCATION

Johns Hopkins University

Baltimore, MD, USA

MSE, Biomedical Engineering

2020 - 2021

Univeristat Politècnica de Catalunya

Barcelona, Spain

BSC, Biomedical Engineering

2016 - 2020

PROJECTS AND AWARDS

- Best Poster Award at NEURIPS** January 2024
- 1st Place Vesuvius Challenge – \$100,000 Ink Detection Kaggle Competition** March 2023 – June 2023
- Developed a solution to identify ink in ancient scrolls buried after the Mount Vesuvius eruption. This work was mentioned in an interview by Scientific American.
- 1st place in the Machine Learning Medical Image Analysis Competition**
- Johns Hopkins University* Jan 2021 – June 2021
- Developed a Neural Network for glioma sub-tumoral region segmentation.
- Best Academic Record Award, Summa Cum Laude** July 2020
- Biomedical Engineering Society** September 2018 – July 2020
- Created the biomedical engineering society at the Universitat Politècnica de Catalunya.
 - Technical Team leader in the development of an optical AI-driven sensor at the SensUs competition 2019. Represented Spain for the national team.

PUBLICATIONS AND TALKS

- Aina Tersol, Alexander R. Loftus, Yael Daihes. 2023.*
A Saliency-based Clustering Framework for Identifying Aberrant Predictions (Best Poster Award).
Neural Information Processing Systems (NeurIPS)
- Pengwei Wu, Aina Tersol, Rolf Clackdoyle, John Boone, and Jeffrey. 2023.*
Cone-Beam CT Sampling Incompleteness: Analytical and Empirical Studies of Emerging Systems and Source-Detector Orbits. *Journal of Medical Imaging. JMI 22367GR*
- S Hatamikia, A Biguri, G Herl, G Kronreif, T Reynolds, J Kettenbach, T Russ, A Tersol, A Maier, M Fig, J H Siewerdsen and W Birkfellner. 2023.*
Source-detector trajectory optimization in cone-beam computed tomography: A comprehensive review on today's state-of-the-art
Journal of Medical Physics. PMB-113298
- Aina Tersol, Pengwei Wu and Jeffrey Siewerdsen. 2023.*
Sampling Effects for Emerging Cone-Beam CT Systems and Scan Trajectories: From Tuy's Condition to System Design and Routine Image Quality Tests
SPIE Medical Imaging – Physics of Medical Imaging
- Aina Tersol, Dr Bianca Van Wyk. Feb 2024*
Webinar - Your medical navigator for radiology proficiency
The Webinar Vet
- Aina Tersol, Daniel Levenson, Dr. Jenifer Chatfield. Feb 2024*
Conference - Leveraging AI for Enhanced Companion Animal Care - Transforming the Veterinary Medicine
World Veterinary Conference
- Aina Tersol, Dr Bianca Van Wyk. Nov 2023*
Webinar - AI in Veterinary Radiology – AUSTRALIA
The Webinar Vet
- Aina Tersol. Nov 2023*
Conference - AI in Healthcare: Cardiology
St. Joseph Internal Medicine Residency Conference
- Ryan Chesler, Aina Tersol, Alexander Loftus, Ted Kye. June 2023*
Interview - Vesuvius Challenge
Scientific American