Paula Feldman

Computer Vision in Medical Imaging
Torcuato Di Tella University - CONICET
Argentina

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LinkedIn Profile
Google Scholar Profile

Interests

Deep Learning; Computer Vision; LLMs, Transformers, CardioVascular Modelling

Education

•Universidad Torcuato Di Tella, Artificial Intelligence lab, PhD candidate *2021-2025*

Supervised by Emmanuel Iarussi and Claduio Delrieux
Thesis topic: Deep learning and Generative Models applied to 3D Biomedical Data
Research focus: Development of generative models for biomedical applications, including the use of transformers, embeddings, and tokenization algorithms. Hands-on experience with PyTorch and Hugging Face for deep learning model development.

•Universidad de Sevilla and Universidad de Granada, Doctoral Course on Data science *09/2023-11/2023*

Supervised by Angel M. González-Rueda
Constrained optimization for Biomedical Data

•Universidad Nacional de Tucuman, Biomedical Engineer *2016-2021*

GPA: 8/10

Experience

•Teaching Assistant, Universidad Torcuato Di Tella *March 2023 - present*

- Subject "Computational Methods" for the Bachelor in Digital Technology. Contents include topics of Linear Algebra and Optimization.
- Subject "Artificial Intelligence" for the Bachelor in Digital Technology. Contents include topics of Machine Learning and Deep Learning.
- Subject "Data Visualization" for the Masters in Management + Analitycs.

•Teaching Assistant, Universidad Nacional de Buenos Aires *March 2022 - present*

- Subject "Data Visualization" for the Masters in Data Science.

•Research Assistant, Universidad Nacional de Tucumán *October 2020 - February 2021*

- Project: Speech Recognition System for Hospital Bed
- Implemented a speech recognition software on a Raspberry Pi to be used at a hospital bed by a quadriplegic patient

•Research Assistant, Universidad Nacional de Tucumán, CIUNT scholarship *November 2019 - November 2020*

- Project: Towards the generation of melodies through synergistic patterns of forearm muscles
- Used Matlab with Computational Neuroscience tools for Electromyography signal processing
- Published in the Argentinian Congress of Biomedical Engineering and winning poster at EMB UNAL Colombia undergraduate contest

•Teaching Assistant, Universidad Nacional de Tucumán *June 2018 - August 2019*

- Subject “Electrical circuits I”

Publications

MICCAI 2025	VesselGPT: Autoregressive Modeling of Vascular Geometry	Paula Feldman, Martin Sinnona, Claudio Delrieux, Viviana Siless, Emmanuel Iarussi
Medical Image Analysis	Recursive Variational Autoencoders for 3D Blood Vessel Generative Modeling	Paula Feldman, Miguel Fainstein, Viviana Siless, Claudio Delrieux, Emmanuel Iarussi
MICCAI 2023	VesselVAE: Recursive Variational Autoencoders for 3D Blood Vessel Synthesis	Paula Feldman, Miguel Fainstein, Viviana Siless, Claudio Delrieux, Emmanuel Iarussi

Skills

Deep Learning: Expert knowledge of Python Deep Learning stack (NumPy, SciPy, PyTorch, Pandas), 5 years of experience

Programming Languages: C, Python, Java

Tools: 3D Slicer, VMTK, VTK, VScode, Git, Github, HuggingFace, Transformers, LLMs, Cuda

Other Experiences

•**International Symposium on Biomedical Imaging 2023** Cartagena, Colombia *April 2023*

– Helped with the organization at talks and front desk

•**Reviewer**

IEEE Transactions on Biomdical Imaging, MICCAI 2024 and MICCAI 2025