


# Laura Hanu

## CONTACT

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 [laurahanu.github.io](https://laurahanu.github.io)

 [github.com/laurahanu](https://github.com/laurahanu)

## TECHNICAL SKILLS

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**Programming:** Python, Matlab, C++,  
Git

**Deep learning & data science**

**libraries:** Tensorflow, Keras,  
Theano, Open-CV, Scikit-learn,  
Scipy, Numpy

**Machine learning:** Computer  
Vision, Classification, Clustering,  
Object Detection, Image  
Segmentation, Unsupervised  
learning, Generative Networks,  
database management, cloud  
deployment (Azure, Kubernetes)

**Image Processing:** DICOM,  
morphological transforms, 3D  
design and visualisation software  
(Rhinceros, Paraview, Meshlab and  
Cura)

## ADDITIONAL SKILLS

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Public Speaking (e.g. [London AI](#),  
[UCL Data Science](#)), 3D printing,  
GCSE English & Maths Tutor  
(volunteering)

## INTERESTS

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AI safety & Effective Altruism, AI  
creativity & imagination,  
Neurotechnology

## REFERENCES

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Available upon request

## RELEVANT EXPERIENCE

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### Data Scientist

12/2017 - present

[Visulytix](#), London, UK

- Building & implementing state-of-the-art deep learning models for 3D retinal imagery, including GANs for classification for scarce data, segmentation and object detection
- Model speed optimisation for CPU deployment
- Development of internal data science tools for model pre-processing & post-processing in Python

### Research [thesis](#)

06/2017 - 09/2017

Imperial College London

- DICOM data cleaning, exploring unsupervised networks & developing 3 types of network architectures for 3D MRI images
- Trained a 2D and 3D autoencoder to learn deep representations of the MRI data (code and example [here](#))
- Trained a WGAN-GP network and generated new realistic examples (code and example [here](#))

### Research Assistant

06/2016 - 09/2016

King's College London

- Designed a 3D network of fractal trees in C++ for Magnetic Resonance Elastography experiments to model arterial branching
- 3D-printed phantom in preparation for MRI experiments
- Data analysis to prove power-law relationship between phantom fractal dimension and shear wave scattering

## EDUCATION

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### MSc Bioengineering with Neurotechnology

2016 - 2017

Imperial College London

- Research Thesis: "Training unsupervised deep learning algorithms on 2D and 3D medical data"
- Development and application of a Convolutional AutoEncoder and 2 types of GAN architectures, DCGAN and WGAN, on MRI images
- Relevant modules: Machine Learning and Neural Computation, Computational Neuroscience, Introduction to Robotics, Biomedical imaging

### BEng Biomedical Engineering

2013 - 2016

King's College London

- Research project: "Inferring micro-structural information from macroscopic elastic parameters determined from shear wave scattering in fractal-like media", received highest mark 84%
- Vice-President of The Engineering Society & Student ambassador

### Mihai Viteazul Maths & Informatics National College

2009 - 2013

- National Baccalaureate Diploma: 97.3% Overall, including Mathematics (96.5%) and Physics (95.5%), top 8% of entire year