



Sebastiano Ferraris

Geospatial Data Scientist, PhD

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- G Google Scholar
- 🎓 Research Gate

Skills

Python 9+ years



Data science 9+ years



Algorithms 9+ years



Artificial intelligence 4+ years



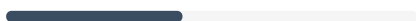
Docker 3+ years



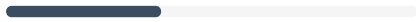
Geospatial Data Science 3+ years



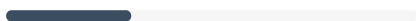
Medical image analysis 4 years



Discrete Events Simulation 1 year



Dynamic pricing 1 year



Data Scientist and Researcher

Problem-solving addict, researcher, and data scientist with publications in international journals. Worked and solved problems in a range of domains, such as the automotive industry, medical image analysis, banking, dynamic pricing, and geotemporal data science.

Driven towards creating algorithms, mathematical models, data processing pipelines, and analyzing bottlenecks and code performance, I specialize in creating prototypes and algorithms to solve relevant problems, communicating results to a diverse audience—from neophytes to stakeholders—iterating over the prototypes, and managing the handover to the development team for production.

Experience

Data scientist | [General System](#)

June 2020 - today

Geospatial data Science Services: Startup in stealth mode until April 2022

- Developing prototypes to automate spatiotemporal data analysis at scale. Python (scikit-learn, pandas, numpy, streamlit), OpenAPI, Docker, K8s, DeckGL, [KeplerGL](#), git (github, gitlab), AGILE development, CI/CD automation.
- Collaborating with clients and domain experts to quickly and iteratively integrate feedback into prototypes.
- Prototypes handover to production and DevSecOps teams.
- Developing and [open sourcing](#) python libraries to provide users tooling and examples for the [Data Flow Index](#).
- Contributing to the [company blog](#) aimed at building a community around the hot topics of spatiotemporal data science.

Algorithm Engineer | [Pace](#)

Sept 2019 - June 2020

Dynamic pricing for the hospitality industry

- Simulation and Validation team, aimed at validate and test the python-based ETL pipelines and the core algorithms with Python, Dask, SQLAlchemy.
- Production code maintenance and new features integration.

Back End Developer | [Thought Machine](#)

Oct 2018 - June 2019

Cloud native core banking

- State-of-the-art infrastructure technologies to deploy microservices in a cloud-agnostic environment: Python, Go, Docker, Kubernetes, and derived customisations.
- Maintenance and improvement of the Thought Machine's CI/CD and release pipelines.

MRes + PhD in Medical Image analysis | [UCL](#)

Sept 2014 - Sept 2018

Research Student

- Pre-clinical trial on pre-term birth steroids administration in a multi-disciplinary international research team.
- Published [7 peer reviewed papers](#) also on [Neuroimage](#) and [Nature Scientific Report](#) about [diffeomorphic image registration](#) and [Machine Learning for automated MRI segmentation](#).
- Reproducible research advocate: open sourced 12 Python libraries ([Sec 7.2.2 of my PhD Thesis](#)), and one [micro MRI dataset](#).

Education

2015 - 2018

PhD, Centre for Doctoral Training (EPSRC), Medical Imaging

University College London

MRI ■ *Pre-clinical studies* ■ *Numerical methods for Image registration* ■ *8 Papers published* ■ *12 repositories open sourced*

2014 - 2015

Master of Research (MRes), Medical Imaging

University College London

Numerical methods for image registration ■ *Digital Image Processing* ■ *Optics in Medicine*

2010 - 2013

Master of Science (MSci), Mathematics

Universita degli studi di Torino

Geometry ■ *Error correcting code theory* ■ *Computational modelling*.

2006 - 2010

Bachelor's of Science (BSc), Mathematics

Universita degli studi di Torino

Vounteering

- 🎓 Maths Tutor, [Action Tutoring](#)
- 🕒 Scanner and Marshall, [Parkrun](#)

Industrial Simulation Modeller | [SimTec](#)

Automotive industry, discrete events simulation

March 2013 - June 2014

- Material flow simulation models to estimate efficiency, remove bottlenecks, dimension buffers and support plant layout design for a range of clients in Italy and Germany. Siemens PlantSimulation, SimTalk.
- In house shortest paths algorithms development for the internal and external logistics of assembly parts, from plant's gate to assembly line.
- Presented at the first annual Tecnomatix Plant Simulation User Conference in Stuttgart.

Developer | [TcWeb](#)

Web development and technology consulting

June 2011 - Oct 2011

- Term contracts as Junior Developer in Java, Java J2EE, Struts 2, Uml, Python.
- Algorithms developer: prototyped and implemented a generalised Hungarian Algorithm to parse newspapers' pages.

Selected Publications

- Ferraris S, van der Merwe J, Van Der Veecken L, Prados F, Iglesias JE, Melbourne A, Lorenzi M, Modat M, Gsell W, Deprest J, Vercauteren T. "[A magnetic resonance multi-atlas for the neonatal rabbit brain](#)". *Neuroimage*. *Neuroimage* 2018 Oct doi: 10.1016/j.neuroimage.2018.06.029.
- van der Merwe J, van der Veecken L, Ferraris S, Gsell W, Himmelreich U, Toelen J, Ourselin S, Melbourne A, Vercauteren T, Deprest J. "[Early neuropathological and neurobehavioral consequences of preterm birth in a rabbit model](#)". In: *Nature scientific reports*, May 2019.
- Ferraris S, Lorenzi M, Daga P, Modat M, Vercauteren T. "[Accurate small deformation exponential approximant to integrate large velocity fields: Application to image registration](#)". In: *Proceedings of the IEEE Conference on Computer Vision and Pattern Recognition*, Lipsum, June 12-17, 2020.
- Ferraris S, Shakir ID, Van Der Merwe J, Gsell W, Deprest J, Vercauteren T. "[Bruker2nifti: Magnetic resonance images converter from bruker ParaVision to NiftI format](#)". In: *Journal of Open Source Software*, 2017.
- Ferraris S "[Image computing tools for the investigation of the neurological effects of preterm birth and corticosteroid administration](#)" *PhD thesis, University College London*, 2019.

Please see my [Google Scholar Profile](#) for the complete list of publications.