

## EDUCATION

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### University of Edinburgh

Edinburgh, Scotland

#### *Doctor of Philosophy in GeoInformatics*

*Sept 2018 – present*

Fully funded by NERC, and in collaboration with the MET Office

Under Edinburgh Multidisciplinary Doctoral Training Partnership (E3DTP) programme

*Topic:* Using machine learning to parameterize climate and weather processes: a case-study on convection

*Supervisors:* Prof. Simon Tett, Prof. Amos Storkey, Dr. Keith Williams

### University of Oxford

Oxford, England

#### *Master of Engineering in Information Engineering; ranked 3<sup>rd</sup> in cohort*

*Oct 2014 – Jun 2018*

Fully funded by John Swire & Sons Ltd., and funded by college and department

Specialized in machine learning and control theory

*Thesis Topic:* A generic model and a distributed algorithm for station based bike sharing systems

*Supervisor:* Prof. Kostas Margellos

## EXPERIENCE

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### Lawrence Berkeley National Laboratory

Berkeley, CA

#### *Research Fellow*

*Jul 2019 – Oct 2019*

Developed generative deep learning models for super-resolution of cloud resolving models

### Taro Studio

Edinburgh, Scotland

#### *Co-founder*

*Feb 2019 – present*

Designing a next-gen weather app that understands personalized environmental perception using machine learning

### Royal Botanic Garden Edinburgh

Edinburgh, Scotland

#### *Data Scientist*

*Jan 2019 – Mar 2019*

Analyzed spatial climate data to investigate the threats to tropical forest and carbon and biodiversity loss

### HYPED

Edinburgh, Scotland

#### *Software Engineer*

*Sept 2018 – Jun 2019*

Designed a pod navigation system using Kalman filter for Hyperloop, a revolutionary mode of transport

### Oxford Strategy Group Digital

Oxford, England

#### *Associate Digital Consultant*

*Jan 2018 – Jun 2018*

A student-led digital consultancy in the UK

Provided digital consultancy service in data science

## PROJECTS

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Codes are available on [github.com/edenau](https://github.com/edenau).

- **Super-resolution GAN:** Leveraged SRGAN in enhancing spatial resolution of cloud resolving model outputs
- **Deep learning:** PhD project, analyzing spatio-temporal climate data by supervised learning
- **Data visualization:** visualized bike sharing systems using interactive maps and animations
- **Distributed optimization:** Master's project, constructed optimization algorithms in a distributed computing framework, and applied it to balancing bike sharing systems with significant improvement in performance
- **Camera calibration:** built a calibration algorithm for pinhole cameras by machine vision techniques
- **Engineering product design:** designed a novel prosthetics with use of fast and wireless communication protocols
- **Android APP:** designed a simple APP in four days for one to explore a city with ease
- **Interactive system design:** high school project, built a user-friendly examination sitting arrangement system

## SKILLS

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- **Programming languages:** Python, MATLAB, Pascal, L<sup>A</sup>T<sub>E</sub>X
- **Frameworks:** NumPy, Matplotlib, scikit-learn, TensorFlow 2.0, Keras, Sphinx, Flask
- **Technologies:** GitHub, GitBook, FFmpeg, SolidWorks, Rose-Cylc
- **Natural languages:** English, Mandarin, Cantonese, Taiwanese, Spanish
- **Writing:** data science blogger on Medium @edenau
- **Public speaking:** gave talks regarding NGOs, machine learning etc.
- **Extracurricular:** Hass.io, neo-classical music, (association) football