LUKE SWABY

DATA SCIENTIST

DETAILS

ADDRESS
125 Hendon Way
NW2 2NA, London
United Kingdom

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07595946214

EMAIL
lukeswabypetts@gmail.com

DATE OF BIRTH
27/06/1996

LINKS

GitHub

SKILLS

Machine Learning & AI
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Software Development
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Data Analytics & Modelling
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Cross-Disciplinary Innovation
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Scientific Writing & Communication
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LANGUAGES

Python
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R
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Bash
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SQL
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C
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PROFILE

Data Scientist specializing in cutting-edge machine learning research. Multidisciplinary background covering various research topics across bioinformatics and machine learning. Driving passion for beneficent applications of AI.

EMPLOYMENT HISTORY

Data Research Scientist, BAE Systems Digital Intelligence — London

Jan 2022 — Present

Conducting low to mid-TRL machine learning research to bridge academic developments with defence applications.

Fields covered include:

- Computer Vision
- Deep Reinforcement Learning
- Graph Machine Learning
- Explainable AI (XAI)
- (Un/Semi-) Supervised Learning
- LLMs as UXV controllers (e.g. Drones)

and many more specialised areas within each.

Recently, my focus has been on innovations in XAI for Autonomous Cyber Operations, developing novel approaches to elucidate agent motivations/beliefs and reduce agent exploitability in adversarial learning frameworks.

Two research papers currently under review.

Research Intern, Natural History Museum — London

Nov 2019 — Oct 2020

Assisted the Vogler lab at the Natural History Museum with phylogenetic research on Coleoptera insects. Streamlined lab operations by developing mitochondrial genome alignment pipelines and a bespoke sequence database that are still being used today. These played a critical role in the production of a research paper that is currently under review.

EDUCATION

MSc Computational Methods in Ecology and Evolution, Imperial College London — London

Oct 2020 — Sep 2021

Grade: *Distinction*

Modules included:

- Programming in Python, R, and C
- Data Management and Visualization
- Linear/Nonlinear Regression

HOBBIES

Travel
Wildlife
Scuba Diving
Mixed Martial Arts
Weight Lifting
Socialising

- Generalized Linear Models
- Maximum Likelihood Estimation
- Bayesian Statistics
- Machine Learning
- High Performance Computing
- Genomics & Bioinformatics
- Geographic Information Systems (GIS)

Final project used deep learning to predict diving behaviour of pelagic seabirds using geolocation and tri-axial acceleration data in order to identify and protect foraging hotspots.

BSc Mathematics and Philosophy, University of Manchester

Manchester

Sep 2014 — Jun 2017

Grade: *First-Class Honours*

Modules included:

- Linear Algebra
- Matrix Analysis
- Geometry
- Sets, Numbers, and Functions
- Calculus and Applications
- Partial Differential Equations & Vector Calculus
- Financial Mathematics
- Coding Theory
- Mathematical and Propositional Logic
- Analytical Philosophy
- Philosophy of Psychology
- Metaethics
- Interdisciplinary Sustainable Development

Dissertation explored contemporary repudiations of Darwinism.

VOLUNTEERING

Mondulkiri Project Elephant Sanctuary

Cambodia

Jul 2016 — Aug 2016

Volunteered at an NGO and sanctuary for injured and overworked elephants in Mondulkiri, Cambodia. Duties included reforestation activities (planting seeds and caring for the nursery), farming, and construction work.

Care4Calais

Calais

Sep 2016 — Oct 2016

Helped collect and deliver emergency aid to to refugees in Calais amidst the European Migration Crisis. Spent a month amassing clothes, food, and bedding before joining a trip to deliver it directly to the camp.

Thula Thula Volunteers Academy

KwaZulu-Natal

Oct 2024 — Nov 2024

Participated in the Thula Thula volunteering program, contributing to wildlife conservation and environmental sustainability efforts on a South African game reserve. Assisted in researching, monitoring, and tracking keystone species, supported anti-poaching initiatives, and engaged in habitat restoration projects. Learned contemporary approaches to the numerous challenges faced by such initiatives, along with the basics of wildlife tracking, identification, research, and rehabilitation.