Dan Andrei Iliescu

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Education

Oct 2019 — Nov 2024
University of Cambridge, UK
PhD in Machine Learning, *supervised by Dr Damon Wischik*
> Full scholarship from the Alan Turing Institute, the UK's national data science institute.
> Published papers on generative models for heterogeneous data: /google-scholar

`Causal Inference` `Variational Autoencoders` `Transformers` `Diffusion Models`

Oct 2018 — July 2019
University of Cambridge, UK
MPhil in Advanced Computer Science, *supervised by Dr Rafal Mantiuk*
> Starred distinction (top 10%) in "Machine Learning" and "Language Modelling" courses.
> Developing AI models for dealing with confounding in high-dimensional data.

`Transformers` `Missing Data Imputation` `Probabilistic Machine Learning`

Sept 2015 — July 2018
University of Manchester, UK
BSc (Hons) in Computer Science, **UK First Class (1:1)**, *supervised by Prof Gavin Brown*
> Dissertation on visualising the learned concepts of Generative Adversarial Networks.

`Machine Learning` `GANs` `Convex Optimisation`

Work Experience

Aug 2023 — May 2024
Schonfeld Strategic Advisors, London, UK
Quantitative Researcher
> Developing Machine Learning models for stock price prediction.

`Linear Models` `Autoregressive Models` `Time Series Forecasting` `Large Language Models`

June 2022 — Feb 2023
Papercup Technologies Ltd, London, UK
Machine Learning Scientist Intern
> Authored a research paper on text-to-speech deep generative models.

`Text-to-Speech Synthesis` `Transformers` `Missing Data` `WaveNet`

Oct 2019 — June 2022
University of Cambridge, UK
Teaching Assistant
> Supervising "Data Science", "Machine Learning", and "Information Theory" courses.

`Linear Models` `Gaussian Process` `MCMC` `Time Series` `Probabilities`

May 2021 — Oct 2021
Yokai.ai, Paris, France
Research Consultant
> Developed deep learning models for automatically assessing image quality.

`Computer Vision` `Image Quality Assessment` `Image Synthesis`

June 2018 — Sept 2018
University of Manchester, UK
Research Assistant Intern
> Co-authored a research paper on specialisation in neural network ensembles.

`Deep Network Ensembles` `Probabilistic Machine Learning` `Loss Functions`

| June — Sept | **ARM Ltd**, Manchester, UK |
| 2017   2017 | Software Engineering Intern |

> Co-authored a whitepaper on optimising ML operations for novel CPU architectures.

C++ | Linear Algebra | Compilers

Selected Projects

2021   **AI Mosaic**, Award at St Edmund's College, Cambridge Art Contest
Python algorithm for assembling images using patches from other images.

> Website: /ai-painting

Digital Art | Internal Learning | Image Synthesis

2020   **Machine Learning Reading Club**, Computer Laboratory, Cambridge
Organized weekly ML paper presentations for PhD students in the Computer Lab.

> Website: /readingclub

Presentations | Machine Learning

2018   **Visualising GAN Layers**, Undergraduate Thesis
Interpreting the concepts learned by Generative Adversarial Networks.

> Website: /visualizing-GAN-layers

GANs | Interpretable Deep Learning | Dimensionality Reduction

Publications

1. **Dan Andrei Iliescu**, Damon J. Wischik. Style-Content Disentanglement Under Conditional Shift. In Proceedings of the Data-Centric Machine Learning Research workshop (DMLR) at ICLR, 2024.

2. **Dan Andrei Iliescu**, Devang Mohan, Tian Huey Teh, and Zack Hodari. Controllable Prosody Generation With Partial Inputs. In Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2024.

3. Aamir Mustafa, Aliaksei Mikhailiuk, **Dan Andrei Iliescu**, Varun Babbar, and Rafał K. Mantiuk. Training a task-specific image reconstruction loss. In Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2022.

4. **Dan Andrei Iliescu**, Aliaksei Mikhailiuk, Damon Wischik, and Rafal Mantiuk. Disentangling Domain and Content. Arxiv Preprint, 2022.

5. Andrew Webb, Charles Reynolds, Wenlin Chen, Henry Reeve, **Dan Andrei Iliescu**, Mikel Lujan, and Gavin Brown. To ensemble or not ensemble: When does end-to-end training fail? In Machine Learning and Knowledge Discovery in Databases: European Conference (ECML PKDD), 2020.

6. **Dan Andrei Iliescu**, and Francesco Petrogalli. Arm scalable vector extension and application to machine learning. ARM Whitepaper, 2018.

Skills

Programming Languages:	Python	SQL	C++	Java		
Python Packages:	Pytorch	Tensorflow	Scipy	Scikit-Learn	Pandas	Matplotlib
Development Tools:	Vscode	Git	Docker	Bash	Poetry	Pipenv	DVC