Joseph Boyd
Data scientist

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https://github.com/jcboyd

ABOUT

Recently graduated with a PhD in bioinformatics at MINES Paristech with directors Jean-Philippe Vert and Thomas Walter. Passionate about machine and deep learning. My aim is to put machine learning at the service of science and technology.

WORK EXPERIENCE

OCT 2016 – JUN 2020

MINES Paristech / Institut Curie, France
Doctoral Researcher

"Deep learning for computational phenotyping in cell-based assays"

→ Applied machine learning across two bioimage projects in collaboration with Institut Curie. Design and application of deep vision models (including R-CNN, pix2pix and CycleGANs) for the analysis of cancer cell populations in fluorescence microscopy images.

→ Manuscript: pastel.archives-ouvertes.fr/tel-02928984

Ref: Dr. Thomas Walter · thomas.walter@mines-paristech.fr

→ Teaching assistant/lecturer in *Introduction to Machine Learning*, *Large-Scale Machine Learning and Data Mining* and *Deep Learning for Image Analysis*.

Ref: Dr. Chloé Azencott · chloe-agathe.azencott@curie.fr

FEB 2015 – JUL 2015

CERN, Switzerland
Master Thesis Intern

→ Application of conditional random fields for metadata extraction of PDF articles in the INSPIRE-HEP digital library.

→ Manuscript: cds.cern.ch/record/2039361

Ref: Dr. Gilles Louppe · g.louppe@uliege.be

JUL 2014 – SEP 2014

United Nations ICC, Switzerland
Summer Intern

→ Survey, design and configuration of management "dashboard" using business intelligence (BI) softwares.

Ref: Mr. Djamel Kacel · kacel@unicc.org

NOV 2010 – AUG 2013

AECOM, Australia
Mathematician

→ Programmer (Python, VBA, SLX) and analyst of discrete-event simulation models of rail, shipping, AECOM and other supply chain systems at *Fortune 500* consultancy firm.

→ Initiated and presented seminar series to train technical and non-technical colleagues to better use MS Excel and scripting.

→ Ref: Mr. Susheel Prabhakar · susheel.prabhakar@aecom.com

EDUCATION

2016 – 2020	**Doctor of Philosophy** Bioinformatics *MINES Paristech, France*
2013 – 2015	**Master of Science** GPA: 5.43(/6) Computer Science *EPFL, Switzerland*
2007 – 2010	**Bachelor of Science** GPA: 6.375(/7) Mathematics / IT *QUT, Australia*

SKILLS

PROGRAMMING	PYTHON, C++, MATLAB, BASH
PYTHON	NumPy, pandas, sklearn, skimage, TensorFlow, Keras, PyTorch
ML	Linear models, random forests, clustering, dim. reduction
DEEP LEARNING	CNNs, RNNs, R-CNN, GANs
DEVOPS	Docker, git, conda
TYPESETTING	MS Suite, LaTeX
SOFT SKILLS	Autonomy, teamwork, writing, teaching, presenting
LANGUAGES	English (native), French

SELECTED PUBLICATIONS

Boyd et al. (2020). **Experimentally-generated ground truth for detecting lymphocytes in animage-based immunotherapy screen** *17th International Symposium on Biomedical Imaging*.

Boyd et al. (2019). **Domain-invariant features for mechanism of action prediction in a multi-cell-line drug screen.** *Bioinformatics*.

Naylor, Boyd et al. (2019). **Predicting residual cancer burden in a triple negative breast cancer cohort**. *16th International Symposium on Biomedical Imaging*.

For a complete list see my Google Scholar page:
scholar.google.com/citations?user=fvzFcqYAAAAJ