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, segmentation, style transfer object detection, image synthesis
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