Toby Dylan Hocking

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Education and work experience.

2014–2016 post-doc in machine learning for epigenomics with Guillaume Bourque at McGill University, Montreal, Canada.

2013 post-doc in machine learning with Masashi Sugiyama at Tokyo Insitute of Technology, Japan.

2012 PhD in machine learning for cancer genomics with Jean-Philippe Vert and Francis Bach, ENS Cachan, France.

2009 Masters of statistics, internship with Mathieu Gautier and Jean-Louis Foulley, INRA, Université Paris 6.

2007–2008 data visualization and statistical web database programming at Sangamo BioSciences, Richmond, California.

2006 Bachelor in molecular and cell biology and statistics, thesis with Terry Speed, UC Berkeley.

Selected first-author research publications.

- **Hocking TD**, Goerner-Potvin P, Morin A, Shao X, Pastinen T, Bourque G. Optimizing ChIP-seq peak detectors using visual labels and supervised machine learning. Bioinformatics 2016.

- **Hocking TD**. A breakpoint detection error function for segmentation model selection and validation. arXiv:1509.00368.

- **Hocking TD** and Bourque G. PeakSegJoint: fast supervised peak detection via joint segmentation of multiple count data samples. Preprint arXiv:1506.01286.

- **Hocking TD**, et al. PeakSeg: constrained optimal segmentation and supervised penalty learning for peak detection in count data, ICML 2015.

- **Hocking TD**, et al. Animint: a Grammar for Interactive Animations. Invited session at Joint Statistical Meetings 2015.

- **Hocking TD**, Spanurattana S, Sugiyama M. Support vector comparison machines. Preprint arXiv:1401.8008.

- **Hocking TD** et al. SegAnnDB: interactive Web-based genomic segmentation. Bioinformatics (2014) 30 (11): 1539-1546.

- **Hocking TD**, Rigaill G, Bach F, Vert J-P. Learning sparse penalties for change-point detection using max-margin interval regression, ICML 2013.

- **Hocking TD**, Schleiermacher G, Janoueix-Lerosey I, Boeva V, Cappo J, Delattre O, Bach F, Vert J-P. Learning smoothing models of copy number profiles using breakpoint annotations. BMC Bioinfo. 2013, 14:164.

- **Hocking TD**, Wutzler T, Ponting K and Grosjean P. Sustainable, extensible documentation generation using inlinedocs. Journal of Statistical Software, 54(6), 1-20.

- Adding direct labels to plots, which won the **Best Student Poster** award at useR! 2011.

- **Hocking TD**, Joulin A, Bach F, Vert J-P. Clusterpath: an Algorithm for Clustering using Convex Fusion Penalties, ICML 2011.

Free/open-source software projects, teaching.

- Tutorial on "understanding and creating interactive graphics" at useR 2016.

- Co-administrator for the R project's participation in the Google Summer of Code (R-GSOC) 2012–2016.

- Mentor in R-GSOC 2013–2016: my students implemented R packages for data viz (animint), machine learning (bigoptim, iregnet), regular expressions (re2r), and performance testing (Rperform).

- Author of several free/open-source R/C/C++/Python/JavaScript packages for machine learning, data visualization, and statistical programming: sublogo, inlinedocs, directlabels, nicholsonppp, clusterpath, quadmod, bams, neuroblastoma, breakpointError, SegAnnot, SegAnnDB, rankSVMcompare, gganim, animint, requireGitHub, WeightedROC, plotly, revector, DiffPeaks, PeakError, PeakSegDP, PeakSegJoint, memtime, namedCapture, coseg.

- Teaching assistant for Machine Learning at Mines ParisTech, Spring 2011.

Language skills: English (native), French (fluent).

Hobbies: Playing saxophone and clarinet since 1994, bicycle enthusiast since 2007.