

# Robert Lesurf

Data Scientist, Bioinformatician

## Personal Information

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## Technical Skills

Machine Learning

Data Analysis

Statistical Modeling

Data Visualization

Bioinformatics

Cluster Computing (SGE, HPCI)

Version Control (Git, SVN)

Fluent in English & French

## Programming Languages

R

Python

Perl

HTML

Java

SQL

Unix

## Soft Skills

Leadership

Critical Thinking

Problem Solving

Decision Making

Teamwork & Collaboration

Oral & Written Communication

Organized professional with over a decade of machine learning and data analysis experience. Distinguished leadership resulting in the completion and publication of sixteen peer-reviewed scientific studies. I have a passion for tackling complex challenges, finding computational solutions, and summarizing results to broad audiences.

## Experience

### 2016-Present Data Scientist, Bioinformatician

*Ontario Institute for Cancer Research, Toronto, ON, Canada*

- Developed machine learning pipeline to increase accuracy of diagnostic and prognostic biomarkers in prostate cancer. Identified optimal sets of data types and parameters to validate during the next project phase.
- Leading team to maintain an in-house, Perl-based genomics analysis pipeline. This ties together software tools into a unified framework for automated processing and QC of data. It uses SGE to parallelize processes onto either the compute cluster at our institute or AWS servers.
- Led and co-analyzed several other cancer research projects, including identifying tumor evolution patterns in glioma and determining the role of transposable genomic elements in the landscape of prostate cancer.

### 2014-2016 Postdoctoral Research Associate

*McDonnell Genome Institute, Washington University, St. Louis, MO, USA*

- Led genomics analysis for clinical trial of HER2-positive breast cancer. Identified several features predictive of drug response.
- Designed a gene capture reagent in partnership with NimbleGen/Roche.
- Built data visualization functions for the GenVisR R package.
- Mentored students and junior employees.

## Education

### 2008-2014 Ph.D. - McGill University, Montreal, QC, Canada

*Biochemistry (Bioinformatics option)*

- Used machine learning to identify and predict early stage breast cancer patients who may be safely spared therapy.
- Developed visualizations for genomic signatures in cancer samples.

### 2006-2008 M.Sc. - McGill University, Montreal, QC, Canada

*Computer Science (Bioinformatics option)*

- Identified genomic features of mouse models for human cancer.

### 2002-2006 B.Sc., Honours - Queen's University, Kingston, ON, Canada

*Biomedical Computing*

- Developed machine learning models for diagnosing prostate cancer.

## Contributions

**2016-2017** Scientific peer-reviewer (Genome Biology, Molecular Oncology).

**2008-2017** Published sixteen peer-reviewed scientific papers.

**2010-2016** Two international conference oral presentations, six poster presentations.

## Awards & Honours

**2017** Top peer-reviewed publication of the year (Oslo University Hospital).

**2010-2013** Breast cancer research doctoral fellowship (US Department of Defense).

**2006-2008** Postgraduate master's scholarship (NSERC).

**2002-2006** Dean's honour list, four years in a row (Queen's University).

**2002** National biology scholar (University of Toronto).

**2002** Governor General's Academic Medal (Governor General of Canada).