# Résumé of Kent S Johnson

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## Skills

Master programmer and toolsmith with strong background in object-oriented programming and agile development. Proven ability to design, develop and deliver top-quality, working software using C#, R, Python, and Java. Strong knowledge of statistics and machine learning.

Specific experience includes

* Data analysis and visualization using R
* Geospatial analysis and mapping
* Statistical analysis and machine learning
* GUI application development using C#, Windows Forms, Java Swing
* Database development with MS SQL Server and PostgreSQL
* Web application development using Python, Django, JavaScript, AJAX, Java applets and servlets, HTML, XML and template languages
* Teaching, mentoring and using agile software development practices
* Test-driven development with NUnit, JUnit and Python unittest
* Version control systems including Mercurial and git
* Project tracking with Trac
* Code review using ReviewBoard

## Professional History

**PerkinElmer, Hopkinton, MA,** November 2011 (purchase of Caliper) to present
**Caliper Life Sciences, Hopkinton, MA,** January 2011 (purchase of CRi) to November 2011
**Cambridge Research & Instrumentation, Woburn, MA,** April 2008 to December 2010
Principal Software Developer, Phenoptics Quantitative Pathology Solutions

Architect and principal developer of inForm software to analyze medical images for cancer immunology research. Implemented machine learning to classify cells in tissue images.

Author of the phenoptr R package for spatial analysis of inForm data.
https://perkinelmer.github.io/phenoptr/

Assisted users with statistical analysis of experimental data using R.

Modeled the response of the Vectra scanner to select optimized filters and fluors for multispectral imaging.

Introduced many best practices and tools including agile development, unit testing, continuous integration, code review and Mercurial revision control.

**PreFab Software, Chelmsford, MA, March 2007 to April 2008**
Principal Software Developer

Principal developer of [blogcosm.com](http://blogcosm.com) including database design and development, extensive data acquisition and storage, custom charting and implementation of the actual website. The website is built using Python, Django, JavaScript, AJAX and jQuery with a PostgreSQL database.

Web site administration using Apache, mod\_python, Linux and AWStats.

**SkillSoft Corp., Nashua, NH, April 2001 to February 2007**
Senior Software Developer

Developed a distributed web application and rich client for maintenance of a courseware database using Jython, Swing, Jetty web server, Java servlets and MS-SQL Server.

Developed a SCORM-compliant web server using Python, CherryPy and XML-RPC.

Developed an editor for custom course content using Jython, Java and Swing. The editor includes an embedded web server based on Jetty.

Developed a database maintenance utility using Jython and MS-SQL Server.

Enhanced SkillSoft content player applet including localization in 14 languages and making it accessible for users with disabilities (section 508 compliance).

**Transparent Language, Inc., Merrimack, NH, 1995 to April 2001**
Senior Software Engineer

*LanguagePro:* Principal developer of LanguagePro Server, a Web application server written in Java using servlets, XML, JDBC and Unicode. It provides HTTP access to language learning content including text, sound and video. User and administrator interface is browser-based using HTML, JavaScript, applets and WebMacro. Localized to nine languages including Chinese, Japanese and Korean.

*Mentoring:* Organized and led numerous study groups on topics such as Extreme Programming, software design and construction and technical topics.

*LanguageNow:* Lead programmer for three major releases of Macintosh version of company's flagship language learning product written in C++. Key participant in product development process from specification through final test.

## Education

**EdX**Scalable Machine Learning 2015
Fundamentals of Immunology (two-semester course) 2014
Data Analysis for Genomics 2014
Statistical Learning (Hastie & Tibshirani) 2014

**Coursera**
Data Analysis (Jeff Leek) 2013

Neural Networks for Machine Learning (Geoffrey Hinton) 2012
Computing for Data Analysis (Roger Peng) 2012
Machine Learning (Andrew Ng) 2011

**University of Chicago at Illinois**
Bioinformatics Training Certificate Program (BiTmaP), 2007

**Rivier College, Nashua, NH**
Masters Degree candidate in Computer Science, 3.4 GPA.

**Amherst College, Amherst, MA**
BA mathematics magna cum laude. Phi Beta Kappa, Sigma Xi, A average.

## Publications

Multiparametric immune profiling in HPV- oral squamous cell cancer, Zipei Feng et al.,
*JCI Insight.* 2017;[2(14)](http://insight.jci.org/2/14):e93652. <https://doi.org/10.1172/jci.insight.93652>.

Understanding immune phenotypes and their spatial relationships to breast adenocarcinoma in FFPE tissues, AACR conference poster, 2016.

Characterizing immune evasion in FFPE tissue sections - a new method for measuring cellular interactions via multiplexed phenotype mapping and spatial point patterns, Hoytet al., Journal for ImmunoTherapy of Cancer2014,2(Suppl 3):P259

## References

Available on request.

## CIVIC ACTIVITIES

Active in Boston West Fair Skies, a civic group working to mitigate the effect of airplane noise. Used R and leaflet to visualize changes in flight patterns which led to increased noise complaints. A map I created was instrumental in starting the conversation which led to an MIT noise study. The map has been reprinted in the Wall Street Journal and copied by the Boston Globe, Massport and the FAA.

Active with Fresh Pond Resident’s Alliance to bring attention to development issues in the Alewife area of North Cambridge. Wrote a Shiny application which helped create a zoning petition which was passed into law.

Former moderator of the python-tutor list , contributing over 5,000 posts in six years.