

David Rio Deiros

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<http://github.com/drio>

Education

1995–2003 **Bachelor of Science in Computer Science**, *La Salle School of Engineering*, Ramon Llull University, Barcelona, Spain.

Final Project: Building a mp3 player from scratch.

Experience

April 2015–present **Software Engineer**, *Librato*, San Francisco, CA (Remote).
Contributing member to build and release AppOptics (Application and infrastructure monitoring SAAS).
Enhanced the SDK, the piece of software in charge of abstracting the data backend details and to rendering data visualizations.
Developed and shipped hundreds of features of the Librato product (frontend, backend, and the SDK).
Built and maintained the Python bindings for the Librato API.

August 2007–April 2015 **Software Engineer**, *Baylor College of Medicine*, Houston, TX (4 years remote).
Developed and maintained the genomic data processing pipelines for next-gen sequencers (30 ABi SOLiD version 4, 2 Illumina GALLx and 2 Illumina HiSeqs). These pipelines enable the human genome sequencing center to meet their data production goals and quality.
Developed applications for the analysis of next-gen sequencing data to facilitate data interpretation.
Mentored a team of software engineers to develop high-assurance, high-quality software and established software engineering standards for the team.
Optimized the pipelines through deep and effective study of different software components and their interactions with the hardware in order to speed up the data generation process. Achieved up to 60% reduction in overall execution times of the production pipelines.
Acted as a liaison between the scientists, software engineers and system administrators to ensure that the software processes developed by the team meet the expected goals with the optimal use of the infrastructure.
Performed an in-depth study of different aligner algorithms and selected the most optimal aligning algorithm for the pipelines. Performed bug fixing and features enhances for BFast (an open source aligner).

August 2005–July 2007 **Software Engineer**, *Digitaria*, San Diego, CA.
Built front-end and back-end logic for Internet solutions based on Ruby on Rails, catalyst (perl) on UNIX environment. Administered and configured 6 racks of hardware: Linux, FreeBSD, Solaris and Windows.

August 2004–July 2005 **Software Engineer**, *Eracks systems*, Laguna Beach, CA.
Built a pipeline to automate installations of BSD and Linux operating systems. Tuned BSD and Linux systems over different i386 hardware to fit customer needs.

- February 2002–May 2004 **Software Engineer**, *InternetXaire*, Barcelona, Spain.
 Worked as a main developer leading the design and implementation of two main products: A VPN solution based on IPsec under OpenBSD (Soekris hardware) and a charging and monitoring system for wireless networks. Some of the tasks involved were: Adjusting OS to work on Soekris hardware, modification of DHCP daemon to store transactions in MySQL back-end.
- July 2001–September 2001 **Software Engineer**, *Internship iwith.org*, Lausanne, Switzerland.
 Developed an ISP in order to host non-governmental organizations (NGO) domains and services. The whole system was administered via a web interface. The principal tasks were: Network topology analysis, Operating System Configuration and tuning (Linux). Modification of open source tools (daemons) to allow interactions between them.

Technical Experience

Currently using

- Languages Javascript(8), Bash(8), Ruby(6), Python(6)
 OSes Linux(8)
 Others React(7), Webpack(7), Vim(8), d3js(7), HTML5(6), CSS3(6), git(8)

Used in the past

- Languages R(4), Go(6), Octave/Matlab(6), Java(6), C(8), C++(5), perl(4), lisp(5), ObjectiveC(5), php(5)
 OSes Solaris(5), OpenBSD(7), FreeBSD(6), NetBSD(7), HP-UX(5)
 Others WebRTC(5), RubyOnRails(5), PostgreSQL(6), MySQL(5), TCP/IP(7), L^AT_EX(5), PBS/Moab(5), scipy(5)

Talks

- March 2017 **ASAP: Do you see me now?**, *Tech Lunch*, Austin, TX.
<https://drio.org/~drio/talks/asap.solarwinds.March.2017>
- August 2015 **DNAism: Exploring large datasets on the web with HC**, *Verge*, West Lafayette, IN.
<https://drio.org/~drio/talks/verge.october.2015/>
- July 2014 **Exploring genomic datasets on the web with Horizon Charts**, *HGSC Seminar series*, Houston, TX.
<http://drio.org/~drio/talks/dnaism.hgsc.August.2014>
- Mar 26, 2012 **NextGen Sequencing Data**, *Big Data Houston Meetup*, Houston, TX.
<https://speakerdeck.com/u/drio/p/nextgen-sequencing-data-intro>

Open Source Contributions

- cubism Time series analysis with D3 (<https://github.com/square/cubism>)
 connect HTTP server framework for node (<https://github.com/senchalabs/connect>)
 readfq Fasta/q files reader (<https://github.com/lh3/readfq>)
 sga Assembler for NGS (<https://github.com/jts/sga>)
 l2met Streaming of metrics in Go (<https://github.com/ryandotsmith/l2met>)

go-librato Librato bindings in Go (<https://github.com/drio/go-librato>)
Dnaa Various NGS Tools (<http://dnaa.sourceforge.net>)
Bfast NGS Sequencing Aligner (<https://github.com/nh13/bfast>)

MOOCs (Massive open online courses)

coursera Learning how to learn (<https://www.coursera.org/learn/learning-how-to-learn/>)
coursera Machine Learning (<https://www.coursera.org/learn/machine-learning>)
coursera Software Engineering of SAAS
coursera Bioinformatics Algorithms (Certificate: <http://bit.ly/1Agy3Gv>)
udacity Javascript Design Patterns

Publications (Details at <http://tinyurl.com/drioscholar>)

BMC
Bioinformatics,
2015 Exploring genomic datasets on the web with Horizon Charts.

BMC genomics,
2011 Characterization of single-nucleotide variation in Indian-origin rhesus macaques
 (Macaca mulatta).

The New
England journal
of medicine,
2010 Whole-genome sequencing in a patient with Charcot-Marie-Tooth neuropathy.

Miscellania

2013–2016 **Software Carpentry**, Instructor, Developer, Sysadmin.
 Software Carpentry is a volunteer organization whose members teach basic software skills to
 researchers in science, engineering, and medicine. (<http://software-carpentry.org/>)

2006–2014 **OpenCSW**, *Maintainer*.
 Binary packages for Solaris. (<http://www.opencsw.org/>)