# Alessandra Bilardi

Data & Automation Specialist

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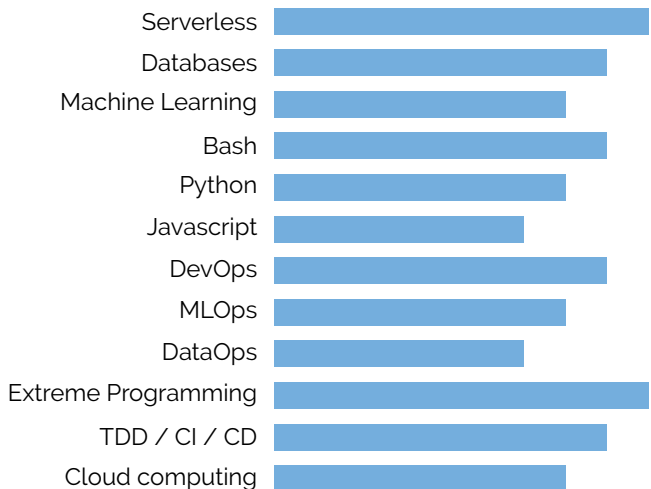
github.com/bilardi

@abilardi

## Who Am I ?

I'm a Data & Automation Specialist at Corley, an AWS Advanced Partner. And when I can, I'm a mentor for a local Coderdojo. I wrote my first code in GWbasic on T1000 with MS-DOS 2.11, when I was eight years old. And I dissected an animal a lot of time before.. I have a Bsc in biological science, physiopathological area and a PhD in biotechnology, bioinformatics area. I love the technical approach and learn new languages and storage services. I'm curious, sensible and precise. I play without breaks when I can develop or automate applications by extreme programming, testops, devops and applying the standards. Studying, playing, learning and sharing are my legs. Where I'll go, it depends only from the next challenge you will throw me.

- Serverless
- Databases
- Machine Learning
- Bash
- Python
- Javascript
- DevOps
- MLOps
- DataOps
- Extreme Programming
- TDD / CI / CD
- Cloud computing

## Keywords

Test, learn, share; overview, priority, risk; agile, scrum, Joel test score; supervised, unsupervised, reinforcement learning; New / SQL, NoSQL, Datalake; ACID / CAP / BASE, OLAP / OLTP.

## Technical Skills

**Likes**
awk, sed, regex, data-mining, machine-learning, testops, devops, dataops, extreme-programming, tdd, continuous-integration, continuous-delivery, continuous-deployment, amazon-web-services, serverless-architecture

**Dislikes**
asp.net, c#, .net, sql-server, waterfall

*+15 years*

**Keywords**
OOP, MVC, vendors; system manager, dependency manager, framework; LAMP, MEAN

**Languages**
awk, Bash, CSS, Javascript, Lisp, Node, Perl, PHP, Python, sed, XHTML, XML

**Sources**
Apache, Nginx; PostgreSQL, MySQL; Memcached, Redis; OVH

**Services**
Backuping, Hosting, Networking, Memory caching, Monitoring, Sharing, Storing, Syncing, Versioning

*+5 years*

**Languages**
C, C++, GWBasic, Java, Latex, YAML

**Sources**
CodeIgniter; JQuery; CPAN, Pear, PyPI; MediaWiki, Wordpress; Redshift; MongoDB; DynamoDB, Elasticsearch; AWS

*+1 year*

**Languages**
AS

**Sources**
Zend; AngularJS, ExpressJS, ReactJS; Joomla, Magento, PHPmotion, Plone, Typo3; Red5; LightTPD; Oracle; Couchbase, Neptune, OrientDB; Azure

## Languages

**Italian** - native
**English** - proficient
**Spanish** - rudimentary

## Hobbies

I love to walk by the sea or to spend time with my son. I like to play and learn technologies and algorithms, not only AWS and ML, but also open source hardware ARM-based and Rubik's cube.

## Non profit

I am a member of a local unit of CoderDojo since 2016. I teach bioinformatics, coding and storytelling with Scratch, Minetest, mBot, micro:bit, Adafruit, Rubik's cube, Arduino and Raspberry.

## Certifications

**AWS Certified Database** - Specialty                                    *Expires Mar 2025*
https://www.credly.com/badges/f258f1bc-59d3-4a22-9f45-506afce9a440

## Education

**Ph.D. in Biotechnology** - Università degli Studi di Padova                *2004 → 2008*
awk · sed · lamp · data-mining · match · perl · c · python · java · cluster-analysis · factor-analysis

Bioinformatics area. Thesis title: *RNA regulators and their target sequences*.
Bioinformatics programmer, CRIBI Genomics and GBrowser databases and sites administrator, GMOD, Trainer swim, FIN.

**Bsc in Biology** - Università degli Studi di Padova                        *1997 → 2002*
ms-dos · gw-basic · mirc · python · latex

Physiopathological area. Thesis title: *Glucagon promoter subcloning in Danio rerio*.
Informatic operator in the university general secretary and math department library, Trainer swim, FIN.

**High School diploma** - Istituto Luigi Stefanini                          *1992 → 1997*
ms-dos · gw-basic · mirc · python

Piano player, swimmer and student.

## Experience

**Data & Automation Specialist** - Corley                                   *Apr 2022 → Current*
awk · sed · docker · amazon-web-services · continuous-integration · continuous-deployment · version-control · amazon-cloudformation · aws-iot · amazon-kinesis · aws-lambda · amazon-sagemaker · serverless-architecture · databases · machine-learning

*COMPANY DESCRIPTION* . Corley is an AWS Advanced Partner. It supports from small to large companies to manage cloud-based applications, to exploit scalable and performing infrastructures and to create digital products.
*MY JOB DETAIL* . Technical support and promoter of guidelines: data management, monitoring and automation of processes with TDD, CI and CD by DataOps, DevOps and MLOps methods. *Cloud engineer* : testing, tuning and learning of new solutions for ML and dataflow processes by AWS services with also data versioning and IaC deployment by SAM and Cloudformation. *Solution Architect* : design, risk assessment and technical consultant for HA and DR.

**Career Break** - Professional Development                                 *Mar 2022 → Mar 2022*
amazon-web-services · aws-iot · amazon-sagemaker · databases

AWS Training and not only.
I studied for AWS DB Specialty Certification and AWS Solution Architect Certification.
I played with home automation control and IoT services.

**Data & Automation Specialist** - Pixartprinting - a Cimpress Company        *Mar 2016 → Feb 2022*
awk · sed · vagrant · docker · amazon-web-services · continuous-integration · continuous-deployment · version-control · amazon-cloudformation · aws-fargate · aws-lambda · amazon-sagemaker · serverless-architecture · databases

*MY JOB DETAIL* . Technical consultant and promoter of guidelines: principally for design, data management and automation of processes with TDD, CI and CD. *DBA* : implementation of automated processes for creating and managing of local and online job environments for DynamoDB, MySQL, MongoDB, Redis, Redshift and Snowflake with Docker and Jupyter; monitoring of services online with CloudWatch, Percona Monitoring and Management, Zabbix and custom scripts / lambda. *Cloud engineer* : testing, tuning and learning of new solutions for BI ETL, ML and dataflow processes by AWS services with also data versioning and IaC deployment by CDK, Sceptre, Serverless Framework and Cloudformation. *Consultant* : design, risk assessment and technical support for maintenance of services online, improvements of schemas and queries, new solutions with HA and DR.

**IT Technical and Development Lead** - Pixartprinting                        *Oct 2013 → Feb 2016*
awk · sed · lamp · oop · rest · continuous-integration · continuous-deployment · version-control

*MY JOB DETAIL* . Technical consultant and promoter of new services or systems: principally versioning and storing. *Programmer* : VCS with svn / git and composer, debugging, implementation and maintenance of Chrome extensions, MVC design with OOP on CMS and webservice applications projects with Redis on LAMP system; using SOAP, websocket and RESTful protocols. *Manager* : DevTeam lead of the maintenance of a satellite portal customized for a client with CodeIgniter and of the migration of the current system to a SOA environment.

**IT Developer** - Pixartprinting                                     *Jan 2013 → Sep 2013*

awk · sed · lamp · oop · model-view-controller · continuous-integration · continuous-deployment · version-control

*COMPANY DESCRIPTION* . Pixartprinting is one of the big European web-to-print companies for professional customers. It works and produces in Italy. On top it invests in research, development and performance for any process from e-commerce site to the production and customer care.
*MY JOB DETAIL* . Management of technical tasks. Development and maintenance of extensions/plugins, libraries, modules, templates, .., to enhance and optimize communications, marketing, networks, services and third party.

**IT Development Manager** - Fidelity House - a Horizon Group Company        *May 2011 → Dec 2012*

awk · sed · lamp · oop · data-mining · performance · social-networking

*COMPANY DESCRIPTION* . Fidelity House was a cash back and fidelity social network of Horizon GROUP since May 2012. It collaborates with principal affiliation marketing platforms like Leadium, TradeDoubler and Zanox. On top it manages and moderates contents of social network users and it "fidelities" any users actions too.
*MY JOB DETAIL* . Coordination and development of interface, net and load, optimize of data structures and resources, data mining and tracking. Using OpenX, PiwiX, Joomla open sources for tracking and frontend, with Redis on LAMP system and Horizon ADV hosting.

**IT Development Manager** - Leadhouse - a Horizon Group Company           *May 2010 → Dec 2012*

awk · sed · lamp · oop · data-mining · performance · affiliate

*COMPANY DESCRIPTION* . Leadhouse is an affiliation marketing platform of Horizon GROUP since May 2012. It hosts and deliveries digital contents at principal or niche portals. On top it manages mail marketing. All for enhance web visibility and marketing of its clients. Principal clients were Bata, Nolita, Met and Museum.
*MY JOB DETAIL* . Coordination and development of interface, net and load, optimize of data structures and resources, data mining, ad serving supervision and its monitoring. Using SOAP and RESTful protocol for tracking on CodeIgniter framework, LAMP system and Horizon ADV hosting.

**IT Development Manager** - Horizon ADV - a Horizon Group Company         *Feb 2010 → Dec 2012*

awk · sed · lamp · oop · model-view-controller · continuous-integration · continuous-deployment · version-control

*COMPANY DESCRIPTION* . Horizon ADV is a digital agency of Horizon GROUP since May 2012. It develops, hosts and manages institutional, ecommerce and mini sites. On top it edits social media and mail marketing contents. All for enhance web visibility and marketing of its clients. Principal clients were Bata, Nolita, Mediaset, Met and Museum.
*MY JOB DETAIL* . Development and management of extensions/plugins, libraries, modules, templates, .., to enhance and optimize communications, marketing, networks and services. *Sysadmin* : backuping/restoring; firewall with shorewall; hosting with nginx, apache, postfix/qmail, and proftp; monitoring with script, collectd, monit and nagios; memory caching with php apc and memcached; networking; sharing with samba and sparkleshare; storing with mysql, postgresql and redis; syncing with rsync and unison. *Programmer* : VCS with git, debugging, OOP and MVC design on CMS and RTMP; using CodeIgniter, Joomla, JQuery, Magento, Pear, PHPMotion, Red5, Wordpress open sources on LAMP system; using APIs about social networks (Facebook, Google, Twitter, Yahoo), mail marketing services (ContactLab, eCircle), marketing affiliation platforms (Leadium, TradeDoubler, Zanox) and carrier services (Bartolini, DHL, TNT, UPS). *Manager* : coordination and development of interface, net, load and web contents, optimize of data structures and resources, data mining and tracking.

**Bioinformatics programmer** - CRIBI Genomics group, University of Padova     *Jan 2004 → Jan 2010*

awk · sed · lamp · data-mining · match · perl · c · python · java · cluster-analysis · factor-analysis

Use and management of Bioperl and Biopython packages and MediaWiki extension using MediaWiki, Plone and Typo3 open sources. GBrowse and sites administrator.
Development of software for analyzing (cluster and factor analysis) the secondary structure of microRNAs and RDTs.
Development of GBrowse.org, an open source portal as gene annotation files repository and genomic informations database. Collaboration on GMOD project with GBrowse.org subproject.
Collaboration on identify intragenic repeat component and how codon usage is affecting termination of bacterial genes with C-A Roten (CRIB/IMUL/CHUV/UNIL).
from 2009/10 to 2009/12, Molecular Biology, didactics/exercise
from 2009/04 to 2009/06, Molecular Biology, didactics/exercise
from 2005/02 to 2005/06, Molecular Biology, didactics/exercise

**Trainer swim** - Public Swimming Pools                                   *Jan 1999 → Dec 2008*

coding-style

Aquatic activity with baby. Technical education about four styles from beginner to old timer.
from 2008/09 to 2008/12, RIVIERA NUOTO, Dolo (VENICE)
from 2005/01 to 2005/12, RIVIERA NUOTO, Dolo (VENICE)
from 1999/01 to 2002/03, GP NUOTO, Mira (VENICE)
Trainer swim with first and second patent.

**Biologist** - Dep. of Biology, University of Padova                      *Oct 2002 → Dec 2003*

python · latex

Cellular, Tissue and Molecular Biology. Clinical trial - medical operation about mouse and rat heart.

**Biologist** - Dep. of Biology, University of Padova                                          *Aug 2002 → Sep 2002*
python · latex

Use of an ionizing radiation source to label zebrafish eggs in several stadium.

**Student** - Dep. of Biology, University of Padova                                            *Mar 2001 → Jul 2002*
python · latex

Molecular biology, Micromanipolation about DNA and RNA injection in zebrafish eggs.

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## Publications

**Genome-wide analysis of plastome sequence variation and development of plastidial CAPS markers in common potato and related Solanum species.** Gargano, D., Scotti, N., Vezzi, A. et al. Genet Resour Crop Evol (**2012**) 59: 419.
Genetic Resources and Crop Evolution, https://doi.org/10.1007/s10722-011-9692-7

**PASS: a program to align short sequences.** Davide Campagna, Alessandro Albiero, Alessandra Bilardi, Elisa Caniato, Claudio Forcato, Svetlin Manavski, Nicola Vitulo, Giorgio Valle; Bioinformatics, Volume 25, Issue 7, 1 April **2009**, Pages 967–968
Bioinformatics, https://doi.org/10.1093/bioinformatics/btp087

**Gene prediction platform improved with second generation sequencers.** Vitulo, N and Albiero, A and Forcato, C and Caniato, E and Bilardi, A and Manavski, SA and Campagna, D and Valle, G (2008) [Conference papers] In: ECCB 2008 - European Conference on Computational Biology, September 22-26th **2008**, Cagliari, Italy
Poster, http://paduaresearch.cab.unipd.it/2082/

**RNA regulators and their target sequences. 2008.** Bilardi, A.
Thesys, http://paduaresearch.cab.unipd.it/975/

**A LRR protein family of Parachlamydia amoebophila UWE25: a genome invasion and highlights to the optimization of the genetic code.** Roten, CA and Barbier, B and Bilardi, A and Favre, A and Eugster, M and Greub, G (2008) [Conference papers] In: Changins meeting 2008 - Genomes, cell biology and human diseases: what can we learn from pathogens?, November, 19 **2008**, Nyon, Switzerland
Poster, http://paduaresearch.cab.unipd.it/2081/

**Age is a risk factor for maladaptive changes in rats exposed to increased pressure loading of the right ventricular myocardium.** Vida, V., Angelini, A., Ausoni, S., Bilardi, A., Ori, C., Vlassich, F., Zoso, V., Milanesi, O., Sartore S., della Barbera, M., Zaglia, T.,Thiene, G. and Stellin, G. (**2007**). Cardiology in the Young, 17(2), 202-211
Cardiology in the Young, https://doi.org/10.1017/S1047951107000376

**Solanum tuberosum cultivar Desiree chloroplast, complete genome.** Gargano,D., Scotti,N., Vezzi,A., Bilardi,A., Valle,G., Grillo,S. and Cardi,T. **2006**. GenBank: DQ386163.2
GenBank, https://www.ncbi.nlm.nih.gov/nuccore/261887673

**Chloroplast DNA sequence variability in cultivated and wild potato species.** D. Gargano, N. Scotti*, A. Bilardi, T. Cardi. Proceedings of the 50th Italian Society of Agricultural Genetics Annual Congress, Ischia, Italy - 10/14 September, **2006**
Poster Abstract - D.37, ItalianSocietyofAgriculturalSciences.2006.pdf

**The plastid genome of potato (Solanum Tuberosum CV Désirée): complete nucleotide sequence and gene organization.** D. Gargano, A. Vezzi, N. Scotti, A. Bilardi, G. Valle, S. Grillo, T. Cardi. Proceedings of the XLIX Italian Society of Agricultural Genetics Annual Congress. Potenza, Italy - 12/15 September, **2005**
Poster Abstract - 5.11, ItalianSocietyofAgriculturalSciences.2005.pdf