Alessandra Bilardi
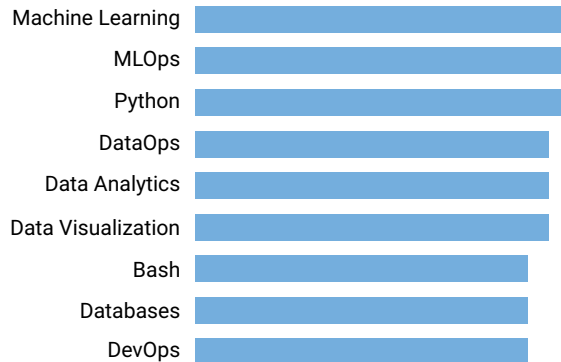Data & Automation Specialist

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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 and AWS & PyData evangelist. 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, dataops, devops, mlops 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.

- Machine Learning
- MLOps
- Python
- DataOps
- Data Analytics
- Data Visualization
- Bash
- Databases
- DevOps

Keywords

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

Technical Skills

Likes
awk, sed, regex, data-analytics, data-mining, data-visualization, machine-learning, dataops, devops, mlops, [ls]mops, 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

Certifications

AWS Certified Machine Learning - Specialty
https://www.credly.com/badges/f556cd6a-c5e8-48ff-8386-b970507902a9
Expires Jan 2026

AWS Certified Data Analytics - Specialty
https://www.credly.com/badges/318f0dfb-baf1-4f7b-aed9-f4223241e4c2
Expires Mar 2027

AWS Certified Database - Specialty
https://www.credly.com/badges/f258f1bc-59d3-4a22-9f45-506afce9a440
Expires Apr 2027

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.

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.

JOB OVERVIEW.   Technical support and promoter of best practices in data management, process monitoring, and automation through TDD, CI/CD, following DataOps, DevOps, and MLOps methodologies.   *Data Analyst:* designing and managing end-to-end data and ML pipelines, from data ingestion to data analysis, data transformation, predictive and generative modeling, and finally to data visualization for business intelligence and monitoring.   *Cloud engineer:* testing, tuning, and exploring new solutions for ML and dataflow processes using AWS services, including data versioning and infrastructure-as-code (IaC) deployment through SAM and CloudFormation.   *Solution Architect:* design, risk assessment, and technical consulting for high availability (HA) and disaster recovery (DR) architectures.

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

JOB OVERVIEW.   Technical consultant and promoter of best practices in 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

JOB OVERVIEW.   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.

JOB OVERVIEW.   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.

JOB OVERVIEW.   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.

JOB OVERVIEW.   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.

JOB OVERVIEW.   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/CHU-V/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.

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