Alan Verdugo

Software engineer

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Competences

Programming	Python, FastAPI, PyTest, Django, Shell scripting
Data analysis	Pandas, Matplotlib, Jupyter notebooks, Google Analytics
Databases	MySQL, DB2, PostgreSQL, MongoDB, SQLite
Others	Docker, Git, Travis CI, Sonarqube, GitHub Actions, OpenShift, Jira, Agile methodologies

Professional experience

November 2018 – March 2023 — **Lead software engineer, IBM**

- Led and mentored a team of 20 developers in order to build, maintain and improve applications which processed IBM's marketing data.
- Managed data in a wide range of formats, from diverse and fluctuant sources.
- Analyzed and documented over 30 legacy ETL processes running in DataStage. Designed and implemented their Python 3 replacements.
- Designed and implemented REST APIs for customer's data transmission.
- Monitored batch processes to protect data flows. Provided root cause analysis and fixes in case of failures.
- By implementing CI/CD validations, incremented the team's throughput and reduced error rates.
- Conducted code reviews to ensure stability, security and good development practices.
- Analyzed code and dependencies looking for security vulnerabilities. Provided remediation strategies and implemented fixes.
- Implemented coding standards' compliance, test coverage, security assessments and code complexity analysis.
- Designed and implemented our secrets-management strategy using Hashicorp Vault.

Python | OpenShift | FastAPI | GitHub | Docker | Pandas | Travis CI | Hashicorp Vault | DB2 | PostgreSQL | RHEL | Jira | Bandit | New Relic | LogDNA | S3 cloud storage | PyTest | JSON

June 2018 – November 2018 — **Software engineer, Amdocs**

- Led and mentored a Python software development team across multiple geographies.
- Processed, analyzed and reported the data of a major telecommunications company.

Python | Spark | SQL | ETL | Cassandra | Qlikview

June 2014 – June 2018 — **Software engineer, IBM**

- Collected, processed, curated and reported all of the billing data for IBM's AppOps Team.
- Automated manual processes and increased the revenue of the team in thousands of dollars per month by enhancing existing code and developing new programs.

Python | SQL | ETL | GitHub | IBM Smart Cloud Cost Manager | IBM Tivoli Usage and Accounting Manager | DB2

April 2013 – June 2014 — **AIX/Linux system administrator, IBM**

- Deployed, configured, maintained and migrated IBM production applications and servers.
- Specialized in the Unix platform and its variants (GNU/Linux, AIX, etc.)

RHEL | AIX | Websphere Application Server | Nagios

September 2012 – April 2013 — **Linux system administrator, Electronic Arts**

- Deployed, maintained and updated thousands of servers in the cloud, used for videogame traffic and data processing for millions of concurrent users.

Debian | Python | MySQL | Nagios

November 2007 – September 2012 — **Programmer analyst, AutoZone**

- Troubleshooting, debugging, maintaining, developing and enhancing systems in a production environment for a retail Fortune 500 company.
- Received two *WITTDJR (What it takes to do the job right)* awards for delivering an excellent customer service and one *Extra Miller* award for *"going above and beyond the call of duty, exceeding expectations and consistently doing more than expected."*

PowerBuilder | SQL | C | Java | Perl | Bash | Jira | MySQL | Informix | PostgreSQL

© Patents

Authentication with infrared light for digital keys

Patent approved. Currently being processed by the United States Patent and Trademark Office.

Continuous user's IoT devices sensing for unusual authenticity detection on computer devices
Patent approved. Currently being processed by the United States Patent and Trademark Office.

Publications

Red Hat OpenShift V4.X and IBM Cloud Paks on IBM Power Systems (Volume 2)
ISBN-13: 9780738459561. ISBN-10: 0738459569.

Implementing and Managing a High-performance Enterprise Infrastructure with Nutanix on IBM Power Systems
ISBN-13: 9780738458564.

Certifications

CompTIA Linux+ **Valid from:** Sept. 2016 **Verification code:** DQPR3E9HCDVE1WSN
LPIC-1 **Valid:** Sept. 2016 - Sept. 2021 **LPI ID:** LPI000368945 **Verification code:** pfbbjhavvj

Relevant coursework and training

Google	*Data Engineering on Google Cloud Platform Specialization*
IBM	*IBM DevSecOps Explorer - Security and Automation for DevOps*
MongoDB, Inc.	*MongoDB for developers*
IBM	*Hadoop foundations*
IBM	*Spark foundations*
IBM	*Big data foundations*
University of California at San Diego	*Python for data science*
IBM	*Applied Data Science with Python*
IBM	*IBM Cloud Kubernetes Service*
IBM	*Docker Essentials*
IBM	*IBM Cloud Garage Test-Driven Development (TDD)*
IBM	*IBM Cloud Private - Continuous Integration/Continuous Delivery Pipelines*
IBM	*Data Visualization Using Python*

Projects

December 2021 – June 2022 | **Endurance mission, IBM**
- Wrote code for the Endurance mission, allowing students to use our CubeSat in Low Earth Orbit, so they could get sensors' data, take pictures, and download the data to Earth via ground stations.

Python · Raspberry Pi 4 · IBM Cloud

January 2017 – October 2017 | **Conferences' attendees live tracking and analysis, IBM**
- In less than a month, our team built a proof of concept of a solution to the registration of attendees in conferences, while also providing mobile applications and an RFID tracking system used to identify the attendees' participation in the venue.
- Used the captured data to gain insights and create a dashboard using the Watson Analytics platform.
- Created reports by cleaning and processing the raw data using Pandas and Matplotlib.
- A fully-working demo was presented to IBM's global leadership during the *Interconnect* conference in Las Vegas.

Watson Analytics · Python · Pandas · Matplotlib · MySQL · SQLite

June 2016 – October 2016 | **Cognitive Concierge, IBM**
- Our team trained and configured speech recognition patterns along with questions and answers in order to program a set of humanoid robots who could understand and answer natural language questions about IBM, Watson, cloud technologies, robotics and nearby locations.
- A fully-working demo was presented publicly during the *World of Watson* conference in Las Vegas.

SoftBank Robotics' Nao and Pepper humanoid robots · Watson · Natural-language processing · Speech recognition