# Jovan Andrei Tapia Valenzuela

# Computer Systems Engineer

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# <https://jovandrei.github.io/>

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| Work Authorization (USC, GC, H1B, OPT, etc.) | H1B |
| Current Location: | McLean, VA |
| Available to be onsite (Yes / No): | Yes |
| Interested in Contract-to-hire opportunities (Yes / No): | Yes |
| Interested in Direct Hire opportunities (Yes/No): | Yes |

**Professional Summary:**

* Software Architect Developer with 8 years of experience. I have experience in Video Analysis, Machine Learning, System Architecture, Database Management, Linux Servers, Classification Algorithms. I'm pursuing a master’s degree in computer science, focusing on AI.
* I taught myself to code since I was 12 and have entered and won multiple coding competitions since. I majored in computer science and have two specializations, one in Machine Learning and another one in Videogames using Unity.
* I did a research internship at UCLA university for a machine learning topic related to bird singing language.
* Pursuing certification in AWS Certified DevOps Engineer.
* Currently I'm working as a consultant in Bank of America as a Software Architect Engineer for the NVD project for ETS fraud system, and have vastly expanded my knowledge in Oracle, Java, Python, Angular, Ansible and Bash scripting.
* I love challenges, and constantly changing technologies which is why computer science is the perfect field.
* I have experience in Video Analysis, Machine Learning, System Architecture, Database Management, Linux Servers, Classification Algorithms.
* I’m a full stack developer and architect with proficiency in coding for Java, Python, MongoDB, Oracle, Angular, Selenium, Bash Scripting.
* Ample experience in Amazon Web Services (AWS) technologies including S3, EC2, ELB, VPC and microservices deployment.

**Technologies:**

Subjects: Video Surveillance, Web Technologies, Artificial Intelligence, NLP, OpenCV

Java frameworks: Spring, Hibernate.

API: Rest, Json, SOAP, WebSockets, SSO, MIME, OAuth

RDBMS & DWH: MySQL, SQL Server, Sybase, Oracle, DB2, MongoDB

Software Life Cycle: Deployment Management, Scrum/Agile Methodology, Docker, Kubernetes.

Programming Languages: Java, Python, C.

Continuous Integration: Jenkins, Puppet, Chef, GIT

Web Technologies: HTML, CSS, jQuery, JavaScript, Angular

Observability DevOps: Dynatrace, Splunk, Nimsoft, SiteScope, Kibana, Elasticsearch.

Office Software VB (Visual Basic), TOAD, Access, Excel Macros, Visio, Fircosoft.

**Education:**

* M.S., Computer Science from Monterrey Institute of Technology and Higher Education in 2023 - 2025
* B.S., Computer Science - Specialization in Artificial Intelligence, Computer Graphics, and Bioinformatics Research from Monterrey Institute of Technology and Higher Education in 2007- 2012.

**Certification:**

* Sun Certiﬁed Programmer for Java 6 Sun Microsystems from Oracle in 2011

**Professional Experience:**

**Bank Of America via Dexian, New Jersey Jun 2022 – Present**

**Software Architect Developer Tech Lead**

**NVD (Never Down)**

I led a project meant to convert the existing ETS Fraud Sanctions application close to a 24/7 application with minimal downtime.

* Led cross-functional teams in the U.S. and India to integrate over 100 Red Hat Servers.
* Reconfigured database and middleware setup, optimizing Apache and Tomcat configurations.
* Developed and deployed a full-stack web platform using Angular 15, SpringBoot and Python for real-time data visualization and management.
* Architected and deployed RESTful APIs for a management system, facilitating integrations with third-party services.
* Implemented secure and scalable JSON-based communication protocols across MQ channels.
* Implemented secure JSON-based protocols and enabled SSO on Apache servers, enhancing API security.
* Enabled Typescript services with Angular 15 to communicate with the SpringBoot API backend service.
* Script deployment with parallel python delta analysis for graph visualization.
* Customized Oracle DB stored procedures and Bash scripts for data sanitization, ensuring data integrity and compliance.
* Bash scripting awk deployment for pattern consolidation of logs.
* Java JMS queues priority enablement for connections order.
* Partitioned tables to improve performance based on date index columns.
* Meeting coordination among multidisciplinary teams such as MQ, Architects, DBA, Engineering, Middleware, L2 and business units.
* Configured Ansible yaml playbooks to dynamically deploy files depending on the environment.
* Configured Fircosoft scripts to adapt to business needs.
* Engineered complex SQL queries for data transformation between datasets for normalization purposes using sql and bash, increasing data accuracy by 25%.
* Created YAML scripts to automate routine database maintenance tasks such as backups, snapshots, and scaling, resulting in increased operational efficiency.

**Environment:** Java, Red Hat, IBM MQ, Oracle db, Golden Gate, Ansible, Angular15, Python, Bash scripting.

**Freddie Mac via Hexaware Virginia Oct 2020 – Jun 2022**

**Software Developer Technical Lead**

**Loan Product Advisor**

Loan Product Advisor is one of the main services Freddie Mac offers as part of the process of Underwriting loans. For this Hexaware was hired to serve as a common bridge between all the technical teams that interact with the application and with business. Some of the technical teams I interact with daily include Network team, Development team, Infrastructure team, TAM team, DBA team, Third-party vendors teams among others. As a technical lead, I need to be able to explain and assign tasks to several resources under my responsibility regarding how to write Bash Scripts, Sybase & DB2 sql queries, analyze code for defect detection and correction and create added functionalities with Java using Spring MVC. Also, I had to manage weekly meetings with several different teams regarding different issues with each of the services.

* Implemented Singleton configuration across microservices to maintain data consistency and integrity.
* Wrote multiple types of SQL queries to generate reports based on the data coming from hundreds of thousands of transactions as per business request. Used Sybase and Mongo Db.
* Generated new tests for synthetic transactions using bash scripting.
* Utilized Ansible for configuration management and Dynatrace for system monitoring, crucial for maintaining high system performance.
* Implemented a serverless architecture using AWS Lambda functions and API Gateway, improving scalability for a microservices-based application.
* Authenticated apps with Apigee API proxies and OAuth tokens.
* Managed AMI/Snapshots/Volumes as well as upgrades on AWS resources.
* Authored Python scripts for efficient AWS resource management, automating data retrieval and storage processes.
* Orchestrated containerized deployments of database workloads using Docker and Kubernetes
* Familiar with ec2, Cloud Watch and IAM, Subnets, Internet gateway, NAT.
* Developed an Angular10 tool, significantly enhancing production support and monitoring team time. Received an award for the same.
* Implemented MongoDB sharding to horizontally scale our database infrastructure, resulting in improved performance and scalability.
* Participated in an on-call rotation schedule, providing round-the-clock support for critical production databases and infrastructure.
* Trained more than 10 new resources for over 40 hours each.
* Implemented MongoDB replication and failover mechanisms to ensure high availability and data redundancy in production environments.
* Implemented database security measures, including role-based access control (RBAC), encryption at rest and in transit, and audit logging.
* Provided Software Partner Integration Director information regarding users’ usage through Splunk querying.
* Performed regular database health checks, identifying and resolving performance bottlenecks to maintain optimal system performance.
* Worked with Market Loan teams to fix variances in data due to reprocessing job.
* Orchestrated failover drills and simulated disaster scenarios to validate the effectiveness of DR plans and identify areas for improvement in resilience and recovery capabilities.
* Used AWS microservices in OpenShift clusters.
* Exposure to AutoML tools like dataRobot. Worked with Data Science team and provided them with the necessary features for their supervised model for monitoring purposes.
* Collaborated with cross-functional teams including developers, system administrators, and network engineers to troubleshoot complex database issues and implement solutions.

**Environment:** Java 8, Sybase, Windows 7, Linux, Solaris, AWS, Spring Security, Spring MVC, Angular10, Selenium, Junit, Java, Maven, Jenkins, Bash Shell Scripting, Perl, HTML, CSS, MongoDB.

**Freddie Mac via Hexaware Virginia Jun 2016 – Oct 2020**

**Development Team Member**

**Loan Delivery System Project Simulator**

The project consisted in the developing of a web application which allowed the users to log in, visualize the historical of currency exchange and interest rate, manage users, manage client, and create questions. The system security is managed with Spring Security, the system logic is implemented with Spring MVC, and the system testing works with JUnit and Selenium. The project followed the scrum-based agile approach.

* Created JUnit test cases.
* Orchestrated failover drills and simulated disaster scenarios to validate the effectiveness of DR plans and identify areas for improvement in resilience and recovery capabilities.
* Administrated Linux server’s user management file system management, and package installation
* Designed web pages front-end and back-end with JSP, HTML, and CSS.
* Implemented CRUD with Spring MVC, for the FAQ and financial sections.
* Participated in daily standup meetings.
* In charge of designing Jenkins pipeline.
* Created shell scripts to automate jobs in Linux server.
* Created a Web Service with Dropwizard and REST API.
* Worked with the Database using MySQL.
* Built a framework with Selenium during training.
* Created an Online banking simulator front end with HTML, CSS, and JavaScript during training.
* Received training in Software Development Life Cycle, Configuration Management, Deployment Management, Training in Continuous Integration, Puppet, Chef, and Jenkins.
* Received training in UML, Testing & Review, Agile Methodology, and TDD.
* Received training in HTTP, HTML, CSS, Web Services, REST, SOAP, and JQuery.
* Received training in RDBMS, SQL, DWH, ETL, and Informatica.
* Received training in Unix and Shell scripting.
* Received training in JIRA, Selenium, Gherkin, Cucumber, ALM, JUnit, and TestNG.
* Received training in Java, JDBC, Hibernate, and Spring.

**Environment:** JAVA, J2EE, My SQL, Windows 7, Ubuntu 14.04, Spring Security, Spring MVC, Selenium, Cucumber, Gherkin, Junit, Java, Maven, Jenkins, Unix Shell Scripting, JSP, HTML, CSS, Agile methodology.

**ITESM CEM, Mexico City Jul 2012 – Jun 2016**

**Researcher**

**Video Surveillance Analysis and Pattern Recognition Algorithms.**

ITESM CEM gave our team access to internal cameras from the campus. We developed an API which allowed other researchers to have a building blocks approach in the creation of a video surveillance system. Also, as part of my research I was investigating patterns in people’s movements, attempting to recognize and classify anomalous events.

* Designed and implemented machine learning algorithms for video surveillance pattern recognition, enhancing anomaly detection in healthcare monitoring systems.
* Supervised Learning was to categorize people by their type of movement, defining features for speed, time in screen, linearity.
* Designed a framework based on Python which made use of a local internal repository containing multiple projects developed by fellow PhD colleagues.

**Environment:** Linux Server Ubuntu 14.04, OpenCV, Python.

**University of California, Los Angeles, Mexico City Aug 2010 – Jun 2012**

**Researcher**

**Bird Songs Analysis**

PhD Charles Taylor, from UCLA University has been investigating for almost 40 years the bird’s song. I had the opportunity to work with him creating a database which allowed them to control the way they had been making input into the system. Also, they lent me some data from which I extracted patterns concerning how the syllables of the songs were constructed.

* Designed a Database constantly consulting the whole team of researchers which resided in various universities.
* Developed an interface which allowed researchers to input new data in a controlled way.
* Used pattern recognition methods which allowed me to find information in the bird song of the Thrasher.

**Environment:** Java, JQuery, MySQL, PHP