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# RAFAEL AUGUSTO AVELLA PENA

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Bogota (Colombia) • (+57) 300 635 69 36 • [davrajobs@gmail.com](mailto:davrajobs@gmail.com)

[in linkedin.com/in/avellarrafael/](https://www.linkedin.com/in/avellarrafael/) [avellaconsulting.com](https://avellaconsulting.com)

DevSecOps / SRE / Mechatronics Engineer

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## Summary

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### DevSecOps / SRE Specialist / Machine Learning Ops :

More than six years of experience in the research and development departments of both industry and software. I am currently devoted to automating software production lines on cloud (CI/CD and on-premise) and continually improving, monitoring, ensuring safety, and creating emergency plans and rescue protocols for virtualized web platforms, software production lines, applications, and servers.

I am a highly motivated DevSecOps/SRE professional with an extensive background in delivering on-premise/cloud services. My strong communication and collaboration skills, soft skills, noble thought, understanding of relevant tools, security skills, automation skills, coding and scripting, customer-focused approach and proactivity have enabled me to deliver successful projects with a high degree of success. My years of experience have allowed me to develop a deep understanding of DevSecOps/SRE methodologies and a passion for finding innovative solutions to complex problems. My dedication to customer service, combined with my technical expertise, makes me an invaluable asset to any DevSecOps/SRE team.

Currently working as a DevSecOps/SRE specialist on a contractual basis, I have expertise in responding to on-call rotations and improving software delivery and product reliability for major corporations such as Adidas and Perficient. My role involves working on their global CI/CD pipelines and monitoring tools, processes, and standards. Additionally, I have worked for TransUnion Chicago/Colombia, where I was responsible for migrations, deployments, metric collection, process dashboards, and the implementation of next-generation CI/CD technologies.

I have extensive experience in setting up and tuning of the latest generation software production lines utilizing the 6C's of DevOps (Continuous Business Planning, Collaborative Development, Continuous Testing, Continuous Release and Deployment, Continuous Monitoring and Collaborative Customer Feedback & Optimization). I have developed automation pipelines, integrations, SAAS, productivity tools, unified development environments, cloud IDEs, time tracking, and many other concepts included on the Agile Landscape v.3.

I am constantly learning and developing proficiency in new generation CI/CD OnPremise-Cloud Technologies such as AWS (CodeCommit, CodeArtifact, CodePipeline, EKS, AWS Pricing models and more)/ Azure (Azure Boards, Azure Repos, Azure Pipelines, Azure Test Plans, Azure Artifacts on Maven and Docker Images, Azure Monitor, Azure Service Plans, Kubernetes on Azure known as AKS) / Gitlab CI/CD Suite / GCP / IBM / CircleCI / Rackspace and more, specially dedicated to work with some other tools from Amazon, such as AWS SageMaker, AWS Bedrock, DevOps Guru, Connect, Lex, Kinesis, Firespace and More. Additionally, I have a comprehensive understanding of automation of physical, logical, and virtual production lines, lean manufacturing structures, control systems, and 5s/Lean Six Sigma methodologies.

Extensive experience in coordinating and developing web platforms using SCRUM-AGILE methodologies, virtualization, web VI (Frontend & Backend) and database architecture. I have a strong mastery of virtualization platforms and automation tools such as Docker, Kubernetes, Virtual machines, EC2, BlueOcean, V-Box, Ansible, and Terraform. Also knowledgeable in the FMEA methodologies and TRIZ for product quality, innovation management, design thinking and digital marketing. I am currently working with teams to enhance KPI's of the company and implementing threat modeling with STRIDE, DREAD and Microsoft SDL, as well as Delphi for risk assessment.

A highly experienced professional with a strong record of training DevSecOps practitioners and SRE candidates. Demonstrated ability to develop and deliver impactful training programs that align with organizational objectives.

Proven track record of successfully mentoring and managing trainees, leading them to success in the field.

My recent focus has been on mastering the three major cloud platforms for efficient work on cloud provisioning and platforms, and I have invested considerable effort and time in becoming a Machine Learning Operations professional.

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## Work experience

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Apr 2022 - Now

DevSecOps / SRE Contractor

*Versett by CBTW*

Installed a DevSecOps culture within the company, migrating planning schemas, projects, workflows, and automations from several separate tools to JIRA, Gitlab, AWS and more. Assisted in the migration of CI/CD platforms from GitHub Actions, CircleCI, Bamboo, BitBucket Pipelines, Jenkins, Pantheon, and others to Gitlab. Supervised and operated cloud platforms, such as GCP, IBM, Rackspace, DigitalOcean, CloudA. Conducted shift-left trainings, planings, setups, and operations across multiple teams and provided on-call services for GKE platforms. Developed smoke test automation strategies in collaboration with QE teams. Developed internal definitions and SLOs.

Actively engaged in managing multiple projects for a diverse clientele of the agency. These projects span a wide range of technological stacks, challenging me to adapt and excel in various technical environments. My responsibilities are twofold: proactive and reactive operations.

On the Machine Learning and AI front, I worked creating AI-powered backends by integrating OpenAI and Langchain (embedding systems with python) with vector stores such as Chroma DB, and also provisioned environments on Azure Machine Learning and AWS SageMaker, also did some POC's on KubeFlow.

On the proactive front, I focus on foreseeing potential challenges and opportunities within these projects. This involves staying ahead of the technology curve, understanding each client's unique requirements, and implementing solutions that not only meet but exceed their expectations. My approach here is to prevent issues before they arise, ensuring smooth project execution through careful planning, continuous monitoring, and the application of best practices in software development and project management.

Nov 2021 - Apr- 2022

Senior DevSecOps/SRE Specialist

*Perficient*

DevSecOps/SRE Team Leader with extensive experience in the design, POCs, proposals and approvals of technologies, methodologies, culture and strategies for secure CI/CD projects. Continuous updating of last generation CI/CD technologies and infrastructure migration from Azure to AWS with cost optimization in mind. Skilled in generation of resource strategies and optimization in cloud platforms, as well as infrastructure and IoT monitoring, log filtering, alerting and more. Release Management and control of new versions, and pipeline design, fix and optimization on Gitlab (.gitlab-ci.yml). Use and integration of most of the features of Gitlab CI/CD platform, and control of AWS Elastic Beanstalk, Cloudformation, DynamoDB, RDS, ECS, Route 53, VPCs, and other Amazon Web Services with horizontal scalability. Proven track record of incorporating SAST, DAST and SCA into pipelines for Frontend, Backend and Mobile Devices, and generating own Docker images as tooling for optimized and faster pipelines. Handling asynchronous sprints with teams located around the world.

May 2021 - Nov 2021

Site Reliability Engineer

*Adidas Colombia*

Responsible for assuring service level agreements (SLAs), service level objectives (SLOs) and service level indicators (SLIs) on microservices. This experience included modern CI/CD technologies and methodologies. Additionally, I developed backlogs for the consumer engagement and traffic product area and carried out DevSecOps automation and standards for 7 different product teams. I have also successfully adapted the given solutions to the current Adidas Infrastructure and learned most of their tooling. Moreover, I was an active participant in the Creation of Bogota's SRE team.

- Nov 2020 - May 2021      DevOps Engineer  
*TransUnion Colombia (f.k.a CIFIN Colombia) & CINTE GROUP Colombia*
- Worked on various projects related to technological transformation of software production chain. These projects included redesigning of CI/CD components to incorporate Next-Generation On-Premise/Cloud technologies, connecting and training for the adoption of new components in the software production line, attending to work requests in release stages, collecting metrics for Quality Assurance and developing dashboards, implementation of 5S concepts with an emphasis on efficiency in both Development and Operations groups, designing and planning product ownership on ETL tooling development, and providing continuous training to employees on the use of new tools and standards. I have also been involved in coordinating with global teams on project migrations to new DevOps infrastructures.
- Oct 2019 - Nov 2020      Technology Director  
*Vermilion S.A.S*
- Web Application Development, Frontend Design Management and Backend Architecture and programming, definition and structuring of the product and its functions (Product Owner), virtualized assembly of the necessary services and databases.
- Development Languages. Node.js - Html5 - Python - SCSS - Pug - SQL
- Frameworks:
- Docker - MongoDB - Apache Cassandra - Apache Solr - Bootstrap 4 - D3 - JQuery. Automation of the continuous start-up of web services and calculation of efficiencies according to database consumption. Product development with AGILE and SCRUM methodologies (SCRUM Master), service automation (RESTful). Training in tools and work methodologies oriented to DevOps (Azure / AWS) and integration - Git - (Gitea / GitLab) - Jenkins - Maven - Selenium - Docker Swarm. Management of the company's technological vision, feasibility analysis of technological projects (Startup), meetings with clients (mainly to raise requirements and fulfill Product Owner functions; assertive negotiation with clients), leadership in advisory sessions of ideas ( Brainstorming- Opposites - Analogies and more), and management of work teams.
- May 2018 - Sep 2019      R&D Engineer  
*Creangel LTDA & PTA S.A.S*
- Complete development of a Visual Information Web platform for indicators control and advanced search services in databases.
- Development Languages:
- Javascript - HTML5 - Python - SCSSFrameworks:
- Pandas - Docker -Tomcat - Apache - Lucene - ElasticSearch - Foundation - JQuery - D3 - Vue
- Assembly of Web Services for the same platform. Knowledge of Databases, Big Data, use of SQL Platforms, ElasticSearch, Solr, Lucene, Advanced Queries and Management of unstructured Databases. Software development in work teams, experience in recruiting and mentoring apprentices, as well as participation in demonstration development and sales meetings with clients.
- Aug 2016 - Feb 2017      R&D Engineer  
*National University Of Colombia*
- Development of a fatigue research machine in dental implants.
- Analysis of previous work.
  - Mechanical redesign and simulation of static and dynamic conditions.
  - Selection of materials and purchase process.
  - Selection of manufacturing processes and machining.
  - Final assembly and force transmission tests.
  - Thermal control tuning by PLC programming.
- Feb 2016 - Jul 2016      R&D Engineer  
*FRIMA T SAS (n.k.a RATIONAL Group)*
- Performance analysis and reengineering of a pressure regulation system in an automated industrial cooking device. Evaluation and analysis of the old mechanical system.

Experimental determination of the new machine demands. Market research for technological solutions and reverse engineering process for those solutions.

FMEA analysis for the solution setup. Meetings with several manufacturers, negotiation and joint development of products.

Experimental resistance tests.

Final results and total costs of the module report analysis

Experience in preparation and follow-up of specifications books, meetings with several suppliers throughout Europe.

Meetings with the final manufacturer and negotiation of production prices of the production line.

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## Academic training

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2010 - 2017

Degree on Mechatronics

*Universidad Nacional de Colombia*

Rank 8th of 35 graduates en Mecatrónica

Relevant Projects

- CAD design, representation and Animation of a robotic spider (January 20, .10).
- Electronic design, development and installation of an electrocardiograph (June 2014).
- Creation and adjustment of a Ball & Beam control system, using PID control (June 2014).
- Mechatronic design, representation and simulation of physical conditions of a concert lighthouse (November 2014).
- Adjustment of an H-infinity control system for a drone plane (November 2014).
- Programming of a painting software applied to an ABB robot with six degrees of freedom, simulating the laboratory workspace and its trajectories (November 2014).

2015 - 2016

Best GPA's European Exchange Program

*Institut des Sciences Appliquées Strasbourg (INSA Strasbourg) France*

Best GPAs Program from the National University of Colombia (Colombia - France) Bac + 5 (Master 2 - 5th year).

Relevant Projects.

- Analysis, mechanical design and load simulations of a special launching track for a glider drone (December 2015).

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## Skills

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### Methodologies

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5S, Lean Manufacturing, Lean Startup, Design Thinking, Scrum, Brainstorming, Financial Engineering, Service Modeling, Data Modeling, Service Delivery Management Principles, 20/20/20 Formula, People-Focused Approach, On Call Rotation Strategies, Failure Modes Analysis, Chaos Engineering, Troubleshooting, Self-Learning(Pomodoro), DevOps, DevSecOps, SRE.

### AWS Stack

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CodeCommit, CodeArtifact, CodeBuild, CodePipeline, CodeDeploy, Cloud9, S3, EC2, Beanstalk, CloudWatch, Kubernetes, IAM, VPCs, AWS Athena, Glue (ETL), Amazon RDS, DynamoDB, EKS, Lambda, Lightsail, CloudTrail, OpsWork/Chef, Amazon Prometheus, Amazon Grafana, Route 53.

### CI/CD Tooling

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Git, Gitlab, Gitea, GitHub, BitBucket, AWS CodeCommit, Artifactory (for artifacts and Docker Images), AWS CodeArtifact, Maven, Jenkins Pipelines, AWS codePipeline, Gitlab Pipelines, BitBucket Pipelines, AWS CodeBuild, Docker, Kubernetes, AWS CloudWatch, EC2, EKS, Virtual Box Management, Docker Swarm, Prometheus, Instana, ELK, Grafana, Remedy, Rally Software (Formerly Known as Agile Central), JIRA, ClickUP, Trello, Bitrix24, Terraform, Ansible, MSTeams Notifications, (Push Notifications, Email Notifications and SMS using OpsGenie), Apache Kafka. Checkmarx(SAST), BlackDuck(SCA), SonarQube(DAST).

### Programming Competences

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C++, Javascript, HTML5, Python, Django, Django REST Framework, Assembler, Object Oriented Programming - Data Structures, Lucene, Solr, Dockers, SCSS, Pandas, Docker, Tomcat, Apache, Lucene, ElasticSearch, Foundation, JQuery, D3, Vue, Angular. Git - Jenkins - Maven - Selenium

## Software

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eMicrosoft Office Suite: Word, Excel, Outlook, PowerPoint, Access, Project.  
CAD: AutoCAD, AutoDesk Inventor, CREO , NX, 3DSMax  
General: RobotStudio, CodeComposer, E3, Proteus, Multisim, Matlab, Simulink, Octave.

## Hardware/Systems

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ABB Robots, Arduino, Freescale, Microcontrollers, PLCs.

## Languages

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Spanish (mother tongue), English (Current), French (Current, B2 Certif.)

## Competencies

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- Reengineering
- Reverse engineering processes.
- Failure detection.
- Project Management
- Problem solving.
- Advanced Control.
- Graphic representations.
- Customer service.
- Product innovation
- Negotiation Competences
- Technical support.
- 5S Methodologies.
- Quality assurance.
- Modeling and Simulation.
- Global Market Vision

## Personal abilities and attributes

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Diligent, gentle and easy to talk, perceptive and quick learner

## Portfolio

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