

MARTIN VELEZ

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SKILLS

Languages	Python, Go, SQL, Bash, Terraform, Java
Cloud	Amazon Cloud Financial Management Services, API Gateway, Kinesis, S3, Glue, Athena, RDS, Lambda
Other Tools	git, boto3, Kubernetes, Docker, Spinnaker, Helm, ArgoCD, Prometheus, Grafana, Airflow, Buildkite

EXPERIENCE

Senior Software Engineer, Infrastructure Efficiency <i>Aurora Innovation, Inc.</i>	Jan 2021 - Present <i>Mountain View, CA</i>
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- Currently implementing a CI Cost Chargeback system to attribute and reduce compute costs. Storing data in S3. Querying with SQL from Athena via Glue. Deploying on AmazonMWAA as a Python ETL pipeline
- Designed and implemented a Kubernetes Chargeback system and deployed it on all EKS clusters. Used the Kubernetes API Go library to watch pod events. Used API Gateway, Kinesis, and S3 to store data. Used Glue and Athena for SQL access. Built a Python ETL pipeline that adds cost estimates. Aurora teams that run batch jobs or long-lived services, and even Finance rely on these dashboards to monitor EKS costs.
- Built a set of cloud cost dashboards in Periscope, using SQL, that provide cost overviews, trends, and detailed breakdowns of all AWS costs. Regularly analyze costs and provide recommendations to teams on how to reduce costs.
- Defined Aurora's AWS Tagging Policy. Set up enforcement via SCPs. Ported a Python Lambda application from Uber ATG to automatically add additional team tags. Tagging compliance increased from about 20% to over 90%.

Senior Software Engineer, Storage and Data Infrastructure <i>Uber ATG</i>	Oct 2018 - Jan 2021 <i>San Francisco, CA</i>
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- Ported an internal fork of Apache Airflow from Python 2.7 to Python 3.6. Set up CI/CD pipelines in Buildkite. This allowed users to use newer language features and packages in Autonomous Vehicle (AV) log ingestion ETL pipelines.
- Created a set of storage benchmarks for machine learning training. Benchmarks were critical in identifying issues with a new storage system and negotiating a discount on an upgraded system.
- Migrated over 60 PB of AV Logs from Lustre to Amazon S3. Built a system, using Python and Bash, to transfer and validate AV Logs. Saved the company hundreds of thousands of dollars compared to the AWS-recommended transfer methods.
- Maintained all primary storage systems (DDN Lustre, FreeNAS, Apache Hadoop). Wrote Puppet infrastructure code. Wrote runbooks on how to deal with software and hardware issues. Set up storage and performance metrics and dashboards.

Graduate Student Researcher <i>University of California, Davis</i>	Jun 2012 - Oct 2018 <i>Davis, CA</i>
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- Developed Kodethon, a web IDE that supports programming in C, C++, Python, Java, Lisp, and Prolog, to aid CS education at the university level. Used various technologies including Ruby-on-Rails, AngularJS, PostgreSQL, and Docker. Used by over 3,000 students in over 15 courses at UC Davis and UT Austin. Published in SIGCSE 2020.
- Collaborated on creating the new SCAA and WCR Coffee Tasters Flavor Wheel used widely in the coffee industry. Developed a hierarchical sorting tool using AngularJS and Firebase. Featured on the cover of the Journal of Food Science.
- Studied the feasibility of using RFID to track cows' grooming behavior. Wrote a Java program to interface with the RFID hardware and to store data in PostgreSQL, and built a real-time web user interface. Published in Journal of Dairy Science.

Teaching Assistant <i>University of California, Davis</i>	Sep 2015 - Mar 2017 <i>Davis, CA</i>
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- Lectured classes, led class discussions, tutored students in office hours, graded programming assignments, and proctored exams in undergraduate "Introduction to Programming" and "Programming Languages" having up to 400 students.

EDUCATION

Ph.D. in Computer Science , University of California, Davis Thesis: Minimizing Technical Barriers to Learning Programming Advisor: Prof. Zhendong Su	2018
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B.A. in Economics with minor in Computer Science , University of California, Davis	2010
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