Matei-Marius Micu

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Skills

Programming: Python, Golang, Bash, SQL, JavaScript
Technologies: Kubernetes, AWS, Docker, ArgoCD, Terraform, Git, Linux, Helm, GitLab, Travis-CI, Heroku, OpenStack

Work Experience

SRE at **HotJar,** *Oct 2020 - Present*
- Maintain and evolve the current infrastructure

SRE at **Mambu,** *Jun 2018 - Oct 2020*
- Convert a manual procedure for disaster recovery to a fully automated and tested process that can restart operation in another AWS region in under 2h for more than 50+ environments
- Create the new infrastructure platform based on Kubernetes, Terraform and AWS, and CloudNative projects
- Design & implemented the release procedure for microservices using GitLab, Helm Charts, and ArgoCD following the GitOps approach
- Automating infrastructure requirements through Terraform and Terragrunt
- Adopt and productize the internal streaming platform based on Kafka and Nakadi
- Organize internal workshops intended to prepare one or two development teams (8-12 developers) to create their first production microservice, I focused on: Docker and Kubernetes introduction, Microservice architecture patterns, How to safely break up a microservice from a monolith
- Offer dedicated guidance for short periods (1-4 weeks) for development teams then share the knowledge with the existing operation team and elaborate plans to apply the knowledge to existing environments

DevOps Engineer at **Mambu,** *Sep 2017 - Jun 2018*
- Automate Operation tasks like provisioning, pipelines for Terraform, general CI/CD, container-based infrastructures, lambdas/serverless based projects.
- Collaborate with support, Ops, and development teams to address cross-cutting concerns (compliance tools, cloning/obfuscating, etc...)
- Audit and improve existing tooling. Offer Python reviews/guidance for multiple parts of the organization. Organize numerous workshops about advanced Python topics, language features, and frameworks (SQLAlchemy, calling C and Java code from Python, Flask, Django, tox, PyTest, Conu)

Cloud Engineer at, *Mar 2016 – Aug 2017*
Develop and maintain the following Open-Source projects:
- Argus-Ci - https://github.com/cloudbase/cloudbase-init-ci
  Argus is a framework for writing complex integration tests, for code that needs to run under various different operating systems.
  - I increase support from one Windows version to 6 (including Windows Nano). Implement retry and timeout policy in order to avoid resource blocking
  - Parallelize the running of tests (for running all the tests for all supported Windows versions the time was reduced from ~60 hours to 20-30 minutes)
- Arestor - https://github.com/cloudbase/arestor
  - Arestor is an HTTP framework used to substitute and control cloud provider's metadata. It is used in integration with the Cloudbase-init-ci framework, to test Cloudbase-init in a fully controlled environment with various HTTP metadata sources like AWS, OpenStack, DigitalOcean, or Packer.
- CloudBase-Init - https://github.com/cloudbase/cloudbase-init
  - CloudBase-Init is the Windows equivalent of the Cloud-Init project used on most OpenStack Linux images.

I also maintained the Jenkins pipelines and OpenStack cluster for these projects and contributed to other OpenStack projects.

Education

Master's degree (BSc) Advance topics of Computer Science, Faculty of Computer Science, Iasi, 2018 – Current
- This is a custom program that allows me to pick every course and with the help of my supervisor, I tailored the courses to focus mainly on distributed computing - https://mateimicu.com/tags/master-degree/

Bachelor of Science (BSc) Computer Science, Faculty of Computer Science, Iasi 2015 – 2018

Trainer experience

Collaborator Teacher Assistant at **Faculty of Computer Science (Iasi),** *Feb 2019 - Jun 2019*

- Teaching two groups of roughly 20 students Open Source Working Methodologies.
- This course was focused on Linux skills and introduced them to open source development and container-based infrastructure and concepts.

Technical Trainer at **WantSome,** *Aug 2018 - Jul 2020*

- Python Trainer - https://wantsome.ro/curs-programare-python-iasi
  - Design and Teach a 16 weeks Python training program (2 hours of theory and 4 hours of practice every week) - The first group had 17 people
  - Offer assistance for 8 weeks (3h / week) for final projects. This involves explaining multiple frameworks/libraries or concepts that are not part of the base python course but are more related to each student interests
- DevOps/System Reliability Engineer Trainer - https://wantsome.ro/curs-system-engineering-devops
  - Assist in designing and teaching a 16 weeks Training Program that focuses on Linux, CI/CD, Containers, Networking (2 hours of theory and 4 hours of practice every week) - The first group had 11 people

WorkShops

Jun 2018 - **OpenStack overview at Faculty of Computer Science (Iasi)** - Guest lectured at Cloud Computing course (3rd year), giving an overview of the OpenStack, community, contributor model and presenting the architecture of a few components. Lecture slides at https://openstack-slides.mateimicu.com/

May 2017 - **BEST Training Weekend** - A beginner's workshop to Git and Python

May 2016 - **Trainer at Open Source Camp** - Crash course into Python

May 2016 - **Python training at Faculty of Computer Science (Iasi)** - Introduce students to Python programming language and ecosystem

April 2016 - **Advance Git at Faculty of Computer Science (Iasi**) - Cherry-Picking, Rebasing, advanced workflows, and integrations

March 2016 - **Trainer at FII Practic, Iasi** - Introduction in DevOps and automation over the course of six weeks (2h / week)

Recent experimental projects and interests

- **Kdiscover -** https://github.com/mateimicu/kdiscover
  Is a CLI utility to automatically discover and export K8s connection details locally (there are lots of clusters that I have to connect at some point and wanted something to discover all of them)
- **Auto-tag** - https://pypi.org/project/auto-tag/
  Is a Python project that automatically tags a branch(in git) based on the latest commit messages, used for automatically publishing fast-paced projects (for example terraform modules for big system and microservices) -
- **Distributed Systems** is a topic I always come back to and try to incorporate in my projects (from consensus and blockchain to distributed file systems like IPFS)