

Daniel Kneipp

Senior Platform Engineer

Contact



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in://daniel-kneipp
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Languages

Brazilian Portuguese
[Mother tongue]
English
[Professional working proficiency]

Programming

Python, Bash,
C++, Go, R

Skills

Cloud Infrastructure: ●●●●○
DevOps: ●●●●○
Machine Learning: ●●●○
Computer Vision: ●●●○
Back-end Dev: ●●●○

About me

I'm a Platform Engineer with over 10 years of professional experience working with Computer Vision, Machine Learning and Cloud Infrastructure. I also have a Master's degree in Computer Science (focus on DNA Computing), aggregating theoretical knowledge to the practical experience.

Currently I'm working as a Senior Platform Engineer, maintaining a highly available Kubernetes environment and supporting teams of developers on their operations.

Experience

2022–Now **Senior Platform Engineer** *Bitvavo – Netherlands*

- Implemented solution to access private corporate resources, enabling the company to follow Zero Trust principles with IdP metadata for authorization and monitoring of internal network activity;
- Helped maintain several integrated Kubernetes clusters on a multi-AWS account setup with Istio for networking and Grafana for monitoring, all managed via terraform following the GitOps approach;
- Supported multiple teams in maintaining services managed via ArgoCD, as well as conducting zero downtime upgrades of highly business-critical applications;
- Also helped maintain legacy infrastructure running on long-standing EC2 instances;
- Designed and implemented Cloud architecture on AWS for the customer-facing APIs focusing on low latency.

2021–2022 **Senior System Engineer** *Backbase – Netherlands*

- Developed and supported automation pipelines with Jenkins and Github Actions;
- Conducted workshops and knowledge sharing sessions regarding DevOps culture and tooling to support developers across several teams (focus on local development/testing for cloud-native solutions);
- Provisioned SaaS environments with restoration mechanisms to the compute and storage layers to be served as a reference working API for the whole company (trainees and developers);
- Supported pipelines of projects in Java, Javascript, Typescript and Go for multiple teams with automated interactions with Helm, Terraform, Jfrog, Kubernetes and custom internal tooling.

2019–2021 **Site Reliability Engineer** *MOST Specialist Technologies – Brazil*

- Designed automated packing and testing processes of containerized services with Gitlab pipelines, improving update rate from weakly to daily;
- Blue-Green deployments and Rolling releases with AWS EC2, Fargate, ECS and CloudFormation;
- Deployed and maintained a monitoring system and request tracing with Elastic Stack (Elasticsearch and Kibana), reducing the time of incident response from hours to minutes;
- Infrastructure automation using Ansible to configure ephemeral development instances, Packer for automated AWS AMIs creation and Terraform for the infrastructure provisioning.

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|-----------|--|--|
| 2017-2018 | Machine Learning Engineer | <i>MOST Specialist Technologies – Brazil</i> |
| | <ul style="list-style-type: none"> • Developed ML algorithms for document detection in images and ID recognition (demo available at mostqi.com); • Developed back-end services in Python and Go to serve real-time inferences; • Worked with document classification and clustering using its textual content; • Used Data Engineering and Data Visualization concepts for data preparation, cleaning and labelling unification; • Developed tools for training management and performance monitoring regarding accuracy and hyper-parametrization. | |
| 2016-2017 | Computer Vision Researcher | <i>Invent Vision – Brazil</i> |
| | Deep Learning research for Computer Vision applications. Implemented a set of tools to speedup the development (e.g. synthetic dataset generation, dataset management, etc.) and deployed image classifiers in embedded systems (NVIDIA Jetson). | |
| 2015-2016 | Computer Vision Intern | <i>Invent Vision – Brazil</i> |
| | Research and provisioning of distributed computing systems (based on Hadoop and Spark), developing simple applications made to run across clusters. | |
| 2013-2014 | Undergraduate Researcher | <i>Invent Vision – Brazil</i> |
| | Development of an efficient drowsiness detector based on face expressions (using face and eye tracking algorithms). Deployment made on x86 computers and ARM embedded systems. | |

Education

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|-----------|--|--|
| 2016-2018 | Master of Science | <i>Federal University of Minas Gerais (UFMG)</i> |
| | <i>Computer Science – NanoComp lab. member (http://www.nanocomp.dcc.ufmg.br/).</i> My research area was DNA Computing. The objective was to propose functional chemical circuits for classification tasks using Chemical Reaction Networks theory as a programming language and DNA strands as the hardware. One of the results of my research is a R package to simulate logic circuits based on DNA. See https://github.com/DanielKneipp/DNAr to know more. | |
| 2012-2015 | Bachelor of Science | <i>Federal University of Viçosa (UFV)</i> |
| | <i>Computer Science</i> I received the Presidente Bernardes Medal for my academic excellence. In my undergraduate thesis I developed an algorithm based on a bio-inspired meta-heuristic to solve a combinatorial optimization problem. | |

Awards and certifications

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|------|--|---|
| 2022 | Nanodegree - Site Reliability Engineer Mentorship | <i>Udacity</i> |
| 2021 | AWS Certified DevOps Engineer – Professional | <i>Amazon Web Services</i> |
| 2020 | Google Cloud Platform Fundamentals: Core Infrastructure | <i>Coursera</i> |
| 2019 | Honorable Mention | <i>Symposium on Circuits and Systems Design</i> |
| | Award given on the 32nd SBCCI for the work titled "DNAr-Logic DNA circuit design library in R language for molecular computing". | |
| 2015 | University Medal | <i>Federal University of Viçosa</i> |
| | The <i>Presidente Bernardes</i> Medal is awarded to students with academic excellence. | |

Communication skills

2017 Oral Presentation

Evostar Conference

Presented the research I conducted to obtain my Bachelor's degree. It was about the usage of Genetic Algorithms to optimize and solve a multi-component combinatorial problem.

Publications

Articles in journals

Design and Test of Digital Logic DNA Systems

Renan A. Marks, Daniel K. S. Vieira, Marcos V. Guterres, Poliana A. C. Oliveira, Maria C. O. Fonte Boa, Omar P. Vilela Neto

IEEE Design & Test 38.4 (2021) pp. 94–101. 2021

DNAr: An R Package to Simulate and Analyze CRN and DSD Networks

Daniel K. S. Vieira, Marcos V. Guterres, Renan A. Marks, Poliana A. C. Oliveira, Maria C. O. Fonte Boa, Omar P. Vilela Neto

ACS Synthetic Biology 9.12 (2020) pp. 3416–3421. 2020

Algorithm Selection in Adversarial Settings: From Experiments to Tournaments in StarCraft

Anderson Rocha Tavares, Daniel Kneipp S. Vieira, Tiago Negrisoni Oliveira, Luiz Chaimowicz

IEEE Transactions on Games (2018). *Institute of Electrical and Electronics Engineers (IEEE)*, 2018

A Comparison of Algorithms for Solving Multicomponent Optimization Problems

Daniel Kneipp Sa Vieira, Marcus Henrique Soares Mendes

IEEE Latin America Transactions 15.8 (2017) pp. 1474–1479. *IEEE*, 2017

Conferences/proceedings

DNAr-Logic: A Constructive DNA Logic Circuit Design Library in R Language for Molecular Computing

Renan A. Marks, Daniel K. S. Vieira, Marcos V. Guterres, Poliana A. C. Oliveira, Omar P. Vilela Neto

Proceedings of the 32nd Symposium on Integrated Circuits and Systems Design, 2019, São Paulo, Brazil

A Genetic Algorithm for Multi-component Optimization Problems: The Case of the Travelling Thief Problem

Daniel KS Vieira, Gustavo L Soares, Joao A Vasconcelos, Marcus HS Mendes

European Conference on Evolutionary Computation in Combinatorial Optimization, 2017