ALICIA FORTES MACHADO

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EDUCATION

ENS Paris-Saclay, *Gif-sur-Yvette, France* *Sep 2021 – Present*
M.Sc. in Mathematics, Vision and Learning (MVA).

École Polytechnique, *Palaiseau, France* *Jan 2019 – Sep 2021*
M.Sc. in Data Science.
B.S. in Computer Science & Applied Mathematics. Selected for Eiffel scholarship. Overall GPA: 3.7

Instituto Tecnológico de Aeronáutica *São José dos Campos, Brazil* *Jan 2017 – Dec 2018*
B.S. in Computer Engineering. Overall GPA: 3.6

WORK EXPERIENCE

Google Mar 2021 – Jul 2021
Software Engineering Intern – Research in ML for compilers *Paris, France*

· Implemented a ML-based performance model for a new IR called Sair using **Jax** and TFDS. Built a complete infrastructure to process and represent Sair data; gather accurate performance measurements; and train and evaluate the model. Experimented with different parameters, and found suitable metrics and loss functions.
· Achieved results as competitive as other works in the area of ML for compilers - 7.5% of MAPE.

Google Jun 2020 – Sep 2020
Software Engineering Intern – Capture the Flag infrastructure (kCTF) *Paris, France*

· Implemented a K8s operator in **Go** using Operator SDK, which watches for all Custom Resources (CRs) associated with a specific CR Definition and updates K8s. It checks and ensures the settings set for a Challenge in kCTF.
· Allowed to have essential features in the infrastructure as version control and RBAC.

RESEARCH

École Polytechnique– Graduate research *Oct 2020 – Mar 2021*
Implemented and evaluated a reinforcement learning agent for inference across probability trees incurred by a classifier chains. Developed the project in Python with scikit-learn, Pytorch and OpenAI Gym libraries.

National Institute of Pure and Applied Mathematics – Summer course *Jan 2018 – Feb 2018*
Researched Real Analysis in an undergraduate level. Selected for scholarship.

PROJECTS

Bomberman agent

· Developed a Reinforcement Learning agent and Open-AI environment for playing Bomberman.
github.com/aliciafmachado/bomberman-agent

FEERIC prediction

· Identified main aspects that maintain women answering the FEERIC questionnaire on breast cancer.
Private repository due to non-disclosure agreement

ArtGAN

· Implemented with Pytorch a generative neural network that produces art based on the ArtGAN paper.
github.com/aliciafmachado/artgan-implementation

Analysis of Traffic Accident Dataset

· Analysed a dataset of traffic accident in France using Python to help guide public policy.
github.com/aliciafmachado/traffic-accident-injury-analysis

SKILLS

Computer Languages	Python, C++, Java, Go, R, SQL, C.
Machine learning libraries	Jax, Pytorch, Tensorflow, and scikit-learn.
Spoken languages	Portuguese (native), English (fluent), French (fluent), German (intermediate).
Other tools	Apache Beam, Kubernetes, and Cloud (GCP & Azure).