

# ALICIA FORTES MACHADO

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## EDUCATION

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<b>ENS Paris-Saclay</b> M.Sc. in Mathematics, Vision and Learning (MVA).	<i>Sep 2021 – Sep 2022</i> <i>Gif-sur-Yvette, France</i>
<b>École Polytechnique</b> M.Sc. in Data Science.	<i>Sep 2020 – Sep 2021</i> <i>Palaiseau, France</i>
<b>École Polytechnique</b> B.S. in Computer Science & Applied Mathematics. Selected for Eiffel scholarship. Overall GPA: 3.6	<i>Jan 2019 – Sep 2020</i> <i>Palaiseau, France</i>

## WORK EXPERIENCE

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<b>Google</b> <i>Software Engineering Intern – Research in ML for compilers</i>	Mar 2021 – Jul 2021 <i>Paris, France</i>
<ul style="list-style-type: none"><li>Implemented a ML-based performance model for a new IR called Sair using Jax and TF. 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.</li><li>Achieved results as competitive as other works in the area of ML for compilers - 7.5% of MAPE.</li></ul>	
<b>Google</b> <i>Software Engineering Intern – Capture the Flag infrastructure (kCTF)</i>	Jun 2020 – Sep 2020 <i>Paris, France</i>
<ul style="list-style-type: none"><li>Implemented a K8s operator in <b>Go</b> 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.</li><li>Allowed to have essential features in the infrastructure as version control and RBAC.</li></ul>	

## RESEARCH

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<b>École Polytechnique</b> – Graduate research 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.	<i>Oct 2020 – Mar 2021</i>
<b>National Institute of Pure and Applied Mathematics</b> – Summer course Researched Real Analysis in an undergraduate level. Selected for scholarship.	<i>Jan 2018 – Feb 2018</i>

## PROJECTS

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<b>Bombberman agent</b> <ul style="list-style-type: none"><li>Developed a Reinforcement Learning agent and Open-AI environment for playing Bombberman. <i>github.com/aliciafmachado/bombberman-agent</i></li></ul>
<b>FEERIC prediction</b> <ul style="list-style-type: none"><li>Identified main aspects that maintain women answering the FEERIC questionnaire on breast cancer. <i>Private repository due to non-disclosure agreement</i></li></ul>
<b>ArtGAN</b> <ul style="list-style-type: none"><li>Implemented with Pytorch a generative neural network that produces art based on the ArtGAN paper. <i>github.com/aliciafmachado/artgan-implementation</i></li></ul>
<b>Analysis of Traffic Accident Dataset</b> <ul style="list-style-type: none"><li>Analysed a dataset of traffic accident in France using Python to help guide public policy. <i>github.com/aliciafmachado/traffic-accident-injury-analysis</i></li></ul>

## SKILLS

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