# Gabriel HURTADO AI Applied Researcher

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## WORK EXPERIENCE

**SEPT 21 - NOW** — AI Applied Researcher **ElementAI**, a ServiceNow company, Montreal, Canada
Collaborating with other researchers to improve our image recognition models. Leading a project on Optical Character Recognition (OCR). Extracting key ideas and tailoring Transformers for OCR and document recognition, already gaining 10% accuracy. Working on hot research areas such as Transformers and ViT. Models deployed to customer facing API.

**JUNE 19 - SEPT 21** — AI Research Engineer **HUAWEI** Paris, France
Worked with Dr. Kegl along other top Machine Learning scientists on highly complex topics, mainly related to Reinforcement Learning. Developed a variety of generative models and an open-source library (RAMP) in collaboration with PARIS-SACLAY Center for Data Science in python and PyTorch. Organized a hackathon with over 200 students using our library. Multiple papers submitted at top conferences on this Model Based Reinforcement Learning project, one accepted at ICLR, mainly focusing on key properties of generative models in RL. Other papers currently under review.

**JUNE - NOV 18** — Machine Learning Internship **NOKIA** Paris, France
Analyzed and applied the potential of deep learning in the telecommunication sector. Used Natural Language Processing techniques paired with LSTMs, Fasttext and Variational Autoencoders with Tensorflow and Keras. Improved the reliability of the studied system through early failure detection and prediction, enabling to save millions of $.

**FALL 16 & SUMMER 17** — Research Internship **SIEMENS** Princeton, New Jersey
Joined a research machine learning team, investigated SVM and Dynamic Bayesian Networks under the supervision of Dr. Rosca. Improved the accuracy by 35%. Came back to develop a probabilistic inference tool in C and Python. Sped up the inference process by a factor of two by adapting and tailoring a custom statistics library, for an embedded device.

## EDUCATION

2018 - 2019 — Masters in COMPUTER SCIENCE, **Georgia Institute of Technology**, USA
Degree focused on Machine Learning and Deep Learning. GPA of 3.8/4

2015 - 2018 — Engineering degree in COMPUTER SCIENCE, **University of Technology of Compiègne**, France
Specialization in Data Science and Machine Learning. GPA of 3.9/4

## PROJECTS

### FACE GENERATION FROM LOW DATA - YOKAI.AI

Led a 4 month long freelance research project investigating the capabilities of GANs in very low data regime, generating new photos of a given person from only around 50 images. The results were used to convince existing investors.

### MODEL-BASED MICRO-DATA REINFORCEMENT LEARNING

Wrote a paper on generative model applied to reinforcement learning, improving SOTA 2 folds on sample complexity on acrobot. Studied generative models and their properties. Accepted in a RL workshop at NeurIPS and at ICLR.

### DEEP LEARNING FOR STYLE TRANSFER

Applied Adaptive Instance Normalization for artificial aging of aerial views in PyTorch, Caffe and Tensorflow.
This Neural Style Transfer project was acknowledged in a paper by A. Benbihi at the International Conference on P.A.

## LANGUAGES

FRENCH: Mother tongue ENGLISH: Fluent SPANISH: Fluent ITALIAN: Advanced RUSSIAN: Beginner

## COMPUTER SKILLS

Advanced knowledge: PYTHON, NUMPY, PYTORCH, UNIX, KERAS, HYDRA, AWS, RAY, C, C++,
Knowledge of: TENSORFLOW, DOCKER, KUBERNETES, PROLOG, LaTeX, JAVA, SQL, NOSQL, MATLAB, R

## INTERESTS AND ACTIVITIES

Machine Learning (founder member of DataVenture, a student association promoting AI)
Science, History, Languages, Culture and Technology