Stéphane D. **Belemkoabga**

RESEARCH ENGINEER INTERN @ DASSAULT SYSTEMS

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https://steph1793.github.io/stephane/en.html | https://github.com/steph1793

Education

Ecole Polytechnique   *Palaiseau, France*

MSc IN APPLIED MATHEMATICS, DATA SCIENCE   *2019 - 2020*

- Main Classes : Optimization for Data Science, Machine Learning Theory, Deep Learning, NLP, Computer Vision

ESILV (Ecole Supérieure d'Ingénieurs Léonard de Vinci)   *Paris-La-Défense, France*

ENGINEERING DEGREE IN COMPUTER SCIENCE   *2015 - 2020*

- Major and 2nd of class throughout the 4 first years.

Publications

EGC'20 - Textmine'20   *Brussels, Belgium*

"GÉNÉRATION DE RÉSUMÉS ABSTRACTIFS DE COMMENTAIRES SPORTIFS", A. BOSSARD, D. S. BELEMKOAGBA, A. ESSA,

V. NYZAM, C. RODRIGUES, K. SYLLA   *Feb. 2020*

- Proposal of a deep learning architecture for the automatic summarization of sports commentary stream .

Experience

Dassault Systems   *Vélizy-Villacoublay, France*

COMPUTER VISION R&D ENGINEER INTERN   *Apr. 2020 - Exp. Oct. 2020*

- Prototype of a deep learning model for the detection of the motion parts and motion attributes of a 3D object in point clouds.
- **Tasks** : Bibliographic Review, Innovative proposals, Implementation of the solution, Live Demo
- **Keywords**: Optimisation for Data Science, Machine Learning, Deep Neural Networks

Devinci Research Center (DVRC)   *Paris-La-Défense, France*

RESEARCH ASSISTANT IN NLP   *Sept. 2018 - Apr. 2020*

- Immersed in the research team of my school, I contributed to the reflection on the theme of automatic summarization.
- **Main avenues** : Attention-based deep learning models, Reinforcement Learning, GAN (Generative Adversarial Networks)

Société Générale Corporate & Investment Banking (SGCIB)   *Paris-La-Défense, France*

DATA SCIENTIST INTERN   *Apr. 2019 - Aug. 2019*

- Prototype of an ergonomic tool, for automatic evaluation of financial data quality and their adequacy to their use case, from a battery of statistical tests and statistical learning.
- **Keywords** : Statistics, Probability, Machine Learning, Market Finance, Financial Mathematics

Advenis Investment & Management   *Paris, France*

ASSISTANT PORTFOLIO MANAGER   *Jul. 2018*

- As part of a team of traders at Advenis IM, I mainly learned how to conduct technical and fundamental financial analysis of listed companies. I had the opportunity to apply my knowledge to company studies such as Altran, Avast Antivirus, etc., which studies were used to decide whether Advenis IM should invest in these companies or not.

HighCo Box   *Paris, France*

SOFTWARE ENGINEER INTERN   *Jun. 2017 - Sept. 2017*

- Development of additional modules and plugins to automate certain tasks for the collaborators
- Implementation of a new automatic annex application, for the communication and file exchange between partners and HighCo Box.

Skills

Programming	Python · C/C++ · C · JAVA · SQL/NoSQL · Ruby on Rails
Machine Learning	Regression Analysis / Classifiers / Dimensionality Reduction / Clustering / Ensemble Learning · Deep Neural Networks · Supervised / Unsupervised / Reinforcement Learning
ML Frameworks	Pytorch · Tensorflow/Keras · Scikit-Learn
Languages	French (mother tongue) · English (TOEFL: 600)

Extracurricular Activity

Devinci Research Center (DVRC)   *Paris-La-Défense, France*
RESEARCH ASSISTANT & MEMBER   *Sept. 2018 - Apr. 2020*
- As a member of DVRC, I had the opportunity to invest my extracurricular time to research on the theme of automatic summarization.
- I also worked and still working on projects related to automatic summarization. Please find more details on my portfolio.

Blog   *France*
WRITER @ ANALYTICS VHYDIA   *Apr. 2020 - PRESENT*
- I have always enjoyed discussing Machine Learning, Deep Learning, Mathematics with some friends, explaining to one another the brand new architectures, the improvements, trying to understand in depth what we learn.
- I then decided to launch my own blog on which I will be talking about papers that I really enjoyed reading, but also breaking through ML theory in an intuitive and enjoying way. More details on my portfolio.

Projects

3D Object Detection   *France*
PROJECT DEVELOPER
- In this project, I gave myself the mission to recreate entirely a deep learning architecture for 3D object detections : Voxelnet. I precisely re-built this model for cars detections.
- The goal of such a project is to learn in depth about this deep learning architecture and 3D computer vision with LIDAR data.

Guidecam   *France*
                                                                                            Sept. 2017 - Juin 2018
- In this project, my comrades Thibaut Tucoulou, Benoit Feurgard, Paul Thibonnier and myself wanted to develop a computer vision prototype, capable of detecting everyday objects in a room, guiding an individual vocally towards the objects he wants to reach.
- **1st prize in the Défi H competition**, we succeeded in convincing people of the importance and usefulness of such a tool.

Distil-Résumé   *France*
PROJECT DEVELOPER   *April. 2020 - Present*
- In this project I initiated this year, I am interested in building lighter deep learning models for automatic summarization, from existing state of the art models, minimizing the performance loss.
- I manage to build my first extractive model which is half the size of the original model (paper : "Text Summarization with Pretrained Encoders" by Yang Liu, Mirella Lapata) and have similar performances. More details on my Github project : DistilBertAbs.

Summarization in French   *France*
PROJECT DEVELOPER
- I am currently working on building a deep learning model for abstractive summarization in french. I already trained my first model (within days), based on the paper "Text Summarization with Pretrained Encoders" by Yang Liu, Mirella Lapata, using scrapped data from the internet. The summaries are surprisingly very abstractive.

Interests

Yoga
PRACTITIONER
- The practice of the Ashtanga Yoga allows me to take a break from the stress of my life, to find myself, to connect with myself and the essential in my life; the spirituality that is found there allows a calming of the mind.

Research in AI
PASSIONATE
- Since my research background at the DVRC, I have always had a strong interest in research in the field of machine learning. In my spare time, I like to reflect on NLP, Computer Vision or Reinforcement topics that I am passionate about and inspired by.

Endurance Race
RUNNER
- I've been doing endurance racing for 5 years. I allow myself racing sessions whenever the opportunity arises.