Philippe Remy

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PROFILE

Author and main maintainer of keract, keras-tcn and some other Deep Learning packages. I am currently co-founder and research lead at Skysense, a young startup specialized in computer vision applied to agriculture. Previously, I was the first research member at Cogent Labs (Japan) where I helped the company grow from pre-seed to Series C. My next objective is to embark on a PhD, do some cutting edge research within a lab and make a significant impact to the field of Deep Learning.

EDUCATION

Imperial College, London *2014-2015*
MSc in Mathematical Statistics, Distinction
Awards: Winton Capital prize "Best thesis project in MSc Statistics", finalist of the Warner prize

Ecole Nationale Superieure d'Informatique et Mathematiques, Bordeaux *2009-2012*
French Leading Grande Ecole
Bachelor and Master in Computer Science & Engineering, First Class Honours

Institut Polytechnique, Bordeaux *2007-2009*
Renowned intensive program in Mathematics & Physics, First Class Honours

EXPERIENCE

Skysense Inc. May 2020 - Present
Co-Founder and Research Lead *San Francisco, USA / Tokyo, Japan*

· Researching on Deep Learning for hyperspectral image analysis to better estimate plant health.
· Implementing several plant detection models in Tensorflow and Darknet.
· Managing a team of labelers and developing the data pipeline to retrain automatically.

Cogent Labs Nov 2015 - Apr 2020
Research Engineer, supervised by D. Cournapeau and T. Sousbie *Tokyo, Japan*

· Researched and implemented a real-time trading volume prediction software for Daiwa Securities, a large brokerage firm (main researcher, 2-year project, now running in production with TF on GCP).
· Implemented and reproduced results of many deep learning papers, with a focus on time series.
· Reached state-of-the-art accuracy on Japanese handwritten character recognition tasks (cf. Bloomberg).
· Completed a deep learning demo to introduce Google Vision API at GCP NEXT 2016. The Project was under the supervision of Jeff Dean (conference speaker) from Google. cf. Google Blog.

Imperial College (supervised by HSBC) Apr 2015 - Sep 2015
Graduate Researcher, supervised by N. Kantas and E. McCoy *London, UK*

· Statistical arbitrage project on American equities based on mean-reverting processes and stochastic volatility models (estimation of the parameters with particle markov chain Monte Carlo methods).

Itiviti May 2013 - Nov 2014
Software Engineer (Low Latency Market Access) *Paris, France*

· Developed and maintained programs to trade on European markets.
· Received an award for the implementation of trading gateways for Bitcoin markets.

BNP Paribas Arbitrage Feb 2012 - Aug 2012
Software Engineer (Intern) *Paris, France*

· Refactored the exotic derivatives booking system to improve its performance.

Pohang University of Technology Jun 2011 - Sep 2011
Data Mining Research Intern *Pohang, South Korea*

· Wrote a lightweight library in C to train neural networks (multilayer perceptron).

SKILLS

Mathematics	Bayesian Statistics, PMCMC, Sequential Monte Carlo, Applied Mathematics, Quantitative Finance
Computer Science	Machine Learning, Computer Vision, Optimization
Computer Languages	Python, R, MATLAB, C
Deep Learning Frameworks	Tensorflow, Keras, Darknet

LANGUAGES (ILR SCALE)

French	Native
English	Full professional proficiency (IELTS Band 7.5, 2019)
Spanish	Casual conversational proficiency
Japanese	Casual conversational proficiency

COMMITMENTS / SIDE PROJECTS

2019-2020. Part of a small quantitative trading team whose purpose is to write trading algorithms on bitcoin markets.

2019. Developed a machine learning-based fraud detection solution used by a large telecom company that can perform daily inference with one billion records per day, all in Python and Tensorflow.

2017-2019. Machine Learning Advisor for Telcoin, a blockchain startup. Created a deep learning library to automate the KYC (know your customer) process (ID scan, face verification, handwriting recognition...). Also participated in video interviews and wrote a blog post on how Artificial Intelligence can support Blockchain applications like Telcoin.

2017. Author of the course Advanced Deep Learning with Keras, produced with Packt Publishing.

2010-2012. Co-Founder and lecturer at Club Finance Bordeaux (student organization). Gave talks on topics related to mathematical finance.

OPEN SOURCE

- My project YOLO-9000 got selected as the official implementation for the CVPR 2017 conference.
- Wrote keras-tcn, the most popular library for Temporal Convolutional Networks with Keras.
- Author of keract, a Keras library to fetch the gradients and activations of any deep learning network.
- Papers with code: Deep Speaker (2017), Wavenet (2016), Very Deep Networks for Raw Waveforms

(2016), Speaker Change Detection (2017), MD LSTM (2006), Phased LSTM (2016), Stock Volatility with Google Trends (2016), etc...

Scripting

- Gathered large datasets (e.g. especially for NLP), some of which are used by big companies such as IBM Research.
- Wrote a python wrapper to help democratize the Stanford NLP library (Information Extraction and Named Entity Recognition).

INTERESTS

- Winter mountaineering.
- Building powerful workstations for deep learning.