

Michel Omar Aflak, Software Engineer

(+33)630924591, aflakomar@gmail.com

LINKS

GitHub: 110+ public repositories
Medium: 12 articles, many in *Towards Data Science*
YouTube: 4 videos, Machine Learning
StackOverflow: 130+ answers

EXPERIENCE

Dec 2021 — <i>present</i>	Google — Software Engineer	London
Launched the <u>Deep Links</u> page in Play Console. Developed several data pipelines, that are time sensitive and critical to the project; those pipelines process data coming from 500M Android devices, or 26B messages daily. Project led to 12% of App Links domains being fixed. Filled a stream of revenue by \$xxM. Designed and implemented end to end patching feature for Android Deeplinks.		
Feb 2021 — Aug 2021	Criteo — Software Engineer, Data	Paris
Redesigned from scratch, in PySpark, the pipeline that prepares data for training Criteo's machine learning models for Ads. The pipeline handles multi-terabytes of data daily. Improved processing time, -300% on memory usage, -125% on computation power, simpler code, and replaced old Scala codebase with Python. Developed a highly optimized C# code that transforms data for realtime inference. Reduced overall prediction time by 3%.		
Apr 2020 — Aug 2020	Zenly — Software Engineer, Android	Paris
Developed a highly customizable and optimized graphical library on Android allowing to draw, animate, write text and play GIFs, on top of images and videos, including an undo/redo framework, with a focus on memory management. Improved H264 encoding settings.		
Jun 2019 — Sep 2019	Twitter — Software Engineer, IOS	London
Worked with Media Client Infrastructure team. Improved video quality on high speed networks by developing a bitrate prediction model, mobile side. A/B tested on 6M users, observed an increase in ads revenue by +0.56%, # of retweets by +0.74%, # of likes by +0.25%.		
Dec 2018 — Feb 2019	RandomCoffee — Software Engineer, Backend	Paris
<u>RandomCoffee</u> get employees in a company to meet each other based on their preferences. Generalized the way of expressing matching rules. Developed a matching algorithm (derived version of K-Medoid) that can match any number of people together instead of only 2 previously, given a set of constraints.		
Jan 2018 — Feb 2018	Tribe — Software Engineer, Machine Learning	Los Angeles
Tribe is a live multiplayer gaming platform that raised \$6.5M from Sequoia Capital, Kleiner Perkins, and others. Developed a mobile embedded machine learning model able to recognize hand gestures.		

NOTABLE PROJECTS

2023	Programming language
A project that I particularly liked is the creation of my own programming language from scratch. Despite the funky name I gave it, the Banana language has a scanner, parser, compiler, and a virtual machine. It's all there. <u>Banana programming language</u> .	
2023	Machine Learning Library
A machine learning library developed from scratch in Python, that allows the creation of models as graphs of layers. This makes the library very versatile, and able to represent a wide variety of architectures. I used it for instance to successfully train CNNs and GANs. <u>Neglnn 2 - GitHub</u> .	
2021	YouTube Channel
After writing articles for many years, I decided to change my medium of expression. I started a YouTube channel February 2021 where I program mathematical concepts, such as neural networks, from scratch. <u>The Independent Code</u> .	

2020

King Of Ether

King of Ether is an existing game that I reimplemented on the blockchain of Ethereum using Solidity smart contracts. The game is a Ponzi scheme in itself. To start the game, a player has to send ETH to the contract and becomes the so called king. Then, every person that wants to claim the throne must send 30% more ETH to the contract and will become the new king. When that happens, the ETH of the new king are transferred to the account of the old king. And so on... If nobody claims the throne for 7 days in a row, the game ends, and the current king is dethroned by some mystical power... <https://kingofether.github.io>.

2019

Leaf

Leaf is a device with radio capabilities that can be plugged directly in a smartphone. People using Leaf form a **mesh network** that allows them to communicate over long distances (up to **3 km** between each node) without any internet connection. This personal project was a proof of concept to demonstrate possible alternatives for private decentralized communications. [Leaf Project — Natural disaster communication system](#).

2018

Machine Learning Library from scratch

Four years ago, I decided to learn AI and more specifically neural networks. I taught myself by reading on the internet, and managed to get a strong understanding of how neural networks work both mathematically and programmatically. I developed a machine learning library akin Keras [on GitHub](#). I wrote an article [on Medium](#) that got published in *Towards Data Science*, and gave a talk/lesson within the organization *School Of AI* in Paris.

AWARDS

May 2016

Engineering Olympiad, Schneider Electric

Paris

"Best Scientific Innovation" award. **6th national place, 2nd regional place.** Arrow impact prediction system.

May 2015

Engineering Olympiad, GRDF

Paris

3rd regional place, reached national competition. Gyroscopic mouse designed to filter essential tremors (movement disorder).

EDUCATION

Sept 2017 — June 2021

École Centrale d'Électronique de Paris

Paris

Sept 2018 — Dec 2018

INSEEC

London

Sept 2016 — Jul 2017

Institut Supérieur d'Electronique de Paris

Paris

LANGUAGES

English: Fluent

French: Native

Arabic: Native