

Ayoub Benaïssa

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Education

Ecole Supérieure en Informatique 08 Mai 1945

Sidi Bel Abbès, Algeria

MASTER OF SCIENCE - COMPUTER SCIENCE

Sep 2015 - July 2020

My master thesis and final project was focused on applying homomorphic encryption in machine learning. We released an open-source library "TenSEAL" within the OpenMined community to build machine learning models that can process encrypted data.

Malek Ben Nabi

Blida, Algeria

BACCALAUREATE

Sep 2012 - July 2015

- **Option:** Technical Mathematics and Electrical Engineering Stream.
- **Rating:** Good, with 15,95 out of 20.

Experience

OpenMined

Algeria

HOMOMORPHIC ENCRYPTION TEAM LEAD

Aug 2020 - PRESENT

- Leading a team focused on applying homomorphic encryption in machine learning.
- Democratizing the use of homomorphic encryption in deep learning by developing and maintaining the TenSEAL library.

OpenMined

Algeria

CORE DEVELOPER

Oct 2019 - Aug 2020

- Member of the crypto team, working on privacy-preserving machine learning.
- Democratizing the use of homomorphic encryption in deep learning by developing and maintaining the TenSEAL library.
- Worked on a library for private-set-intersection during the Covid-19 pandemic.

RAAIS Foundation

Algeria

OPENMINED-PYTORCH FELLOW

Jan 2020 - July 2020

- Integrating Facebook Crypten framework into PySyft.
- Make secure multi party computation available to use through a simple and intuitive API.

Realistic Security

Algiers, Algeria

DEVOPS ENGINEER

Feb 2019 - Dec 2019

- Build a real-world infrastructure as a training lab for penetration testing students.

Docker, INC

Algeria

DOCKER COMMUNITY LEADER

Aug 2018 - PRESENT

- Organize meetups around container technology.
- Teaching about container technologies.

SFIZER GLOBAL SOLUTIONS

Sidi Bel Abbès

JUNIOR SOFTWARE ENGINEER

Sep 2018 - Dec 2018

- Design and implement a data analytics platform for clients.
- I was working on the backend part with Django framework and deploying the product with Docker on an AWS EC2 instance.

Realistic Security

Algiers, Algeria

TRAINEE

Sep 2018

- System administration tasks.

Projects

TenSEAL

Dec 2019 - PRESENT

- A library for doing homomorphic encryption operations on tensors. It provides ways for training and evaluating machine learning models on encrypted data.

CrypTen Integration into PySyft

Jan 2020 - July 2020

- Provides a new way for running efficient secure multi-party computation protocols in PySyft to manipulate neural networks on private data.

Malware Revealer

Feb 2019 - Sep 2019

- Malware Revealer is a malware classification framework, designed primarily for malware detection, it contains a modular toolset for feature extraction, as well as pre-trained models and a ready to use web API for making predictions.

Pneumonia Detector

Dec 2018 - Jan 2019

- A trained neural network that can diagnose Pneumonia on chest x-ray, wrapped by an easy to use web application. It was selected as the best healthcare project by Udacity and Facebook during the Deep Learning with Pytorch challenge.
- Best Health-care project during the Facebook deep learning challenge.

OpenClass

Feb 2018 - June 2018

- OpenClass is a web app that promotes information sharing through organized workshops.

ESI Linux

Feb 2017 - June 2017

- ESI Linux is a Linux distribution made for ESI-SBA (Ecole supérieure en informatique 08 Mai 1945) students particularly, it provides all the necessary tools for their curriculum.

Certifications

CCNA Cyber Ops

Cisco

Oct 2018 - Oct 2021

Machine Learning

COURSERA

Sep 2018

Deep Learning Nanodegree

UDACITY

Apr 2019

Deep Reinforcement Learning Nanodegree

UDACITY

Nov 2019

Skills

Machine Learning Scikit-Learn, PyTorch

DevOps Docker, Ansible

Programming Languages Python, C/C++, JavaScript, Java, X86 Assembly

Relational Database MariaDB, PostgreSQL

Hardware Arduino, Raspberry PI

Others Git, Web Scrapping with Selenium, Django framework, KVM, Reverse Engineering (ELF and APK)

Languages Arabic (Native), French (Fluent), English (Proficient)

Courses

- Algorithms, Object Oriented Programming, Language Theory and Compilation;
- Mathematical Analysis, Linear Algebra, Statistics
- Embedded Systems, Electronics, Digital Logic, Computer Architecture and Organization;
- Operating Systems, Computer Networks, Relational Databases, Cryptography, Cyber Security;

- Software Engineering, Distributed Systems;
- Machine Learning, Deep Learning.

Awards

Community Leader Award

DOCKER COMMUNITY LEADER AWARD

DockerCon 2020

May 2020

CSAW'19 CTF

SECOND PLACE FOR "SUDO_ROOT" AT THE CYBER SECURITY AWARENESS WEEK, NEW YORK UNIVERSITY ABU DHABI.

Nov 2019

HITB Abu Dhabi standoff 2019

FOURTH PLACE FOR "SUDO_ROOT" AT HACK IN THE BOX ABU DHABI STANDOFF COMPETITION.

Oct 2019

Arab Regional CTF 2019

SECOND PLACE FOR "SUDO_ROOT" AT THE ANNUAL ARAB REGIONAL CAPTURE THE FLAG COMPETITION ORGANIZED BY CYBERTALENTS.

Sep 2019

SecuriNets CTF

THIRD PLACE FOR "SUDO_ROOT" AT THE ANNUAL SECURINETS QUALIFICATION CAPTURE THE FLAG COMPETITION.

Mar 2019

Deep Learning with Pytorch Challenge

OUR PROJECT "PNEUMONIA DETECTOR" GOT SELECTED BY UDACITY AND FACEBOOK AS THE BEST HEALTHCARE PROJECT.

Jan 2019

Hacklab CTF

FOURTH PLACE FOR "SUDO_ROOT" AT THE HACKLAB CAPTURE THE FLAG COMPETITION, ESGI PARIS.

Mar 2018

CSAW'17 CTF

THIRD PLACE FOR "SUDO_ROOT" AT THE CYBER SECURITY AWARENESS WEEK, NEW YORK UNIVERSITY ABU DHABI.

Nov 2017

Himayatic CTF

FIRST FOR "SUDO_ROOT" AT THE HIMAYATIC CAPTURE THE FLAG COMPETITION.

Oct 2017

Major League Hacking - Local Hack Day

FIRST PLACE AT THE AUTOBOT13 PROGRAMMING COMPETITION ORGANIZED BY THE MAJOR LEAGUE HACKING LOCAL HACK DAY.

Dec 2016

Activities

- Contributing to opensource projects that relates to cyber-security and machine learning.
- Co-founder of Ingeniums club and head of the OpenClass project whose main purpose is sharing knowledge between students through workshops.
- Since 2016, I have been an instructor at workshops on Docker, Machine Learning, Python Programming, Linux Binary Analysis and Exploitation, Cryptography and others.