ELIES GHERBI (PHD)

eliesgherbi@gmail.com
+33 6 52 05 09 74
Research Articles
(Google Scholar)

SKILLS

PROGRAMMING & TOOLS

Python,
Pytorch, Tensorflow
iPython Notebook
MongoDB
Spark,Flask,Docker
Git, VScode R and RStudio
NinjaTrader8, futures day trading

MACHINE LEARNING

Trustworthy AI (Robustness)
NLP (Domain adaptation meet robustness)
Multi-modal learning
Image recognition
Generative Adversarial Network
Diffusion models for purification
Anomaly detection with deep learning
Sequence modeling
Multi-modal & distributed DL

TEACHING (ECOLE CENTRALE-SUPELEC)

Practical ML (Supervied, unsupervied, causality).
ML OPS (docker/flask) tutorial.
Mentoring a group of students (6) on industrial projects.

EDUCATION

PHD, DEEP LEARNING FOR IN-VEHICLE INTRUSIONS DETECTION

University of Paris Saclay
July 2021 | France, Paris

MS, MACHINE LEARNING FOR DATA SCIENCE

University of Paris Descartes
September 2017 | France, Paris

BS, MATH AND COMPUTER SCIENCE

University of Science and Technology of Houari Boumediene
June 2015 | Algiers, Algeria

LANGUAGES

English[Fluent]
French[Native]
Arabic[Native]
Tamazight (Berber)[Native]

EXPERIENCE

IRT SYSTEMX | Researcher, research engineer

July 2021 | France, Paris Saclay

- Developed diffusion models to purify against environmental changes, such as empirical attacks and weather conditions.
- Worked on adversarial attacks and robustness in industrial image classification and natural language processing, creating deep learning architectures that are reliable and trustworthy for a range of industrial contexts.
- Used multi-modal transformers to fuse data from multiple sensors (camera, lidar, radar) and build an autonomous driving agent based on imitation learning.

IRT SYSTEMX /PARIS SACLAY UNIVERSITY | PHD student/research engineer

February 2018 - July 2021 | France, Paris Saclay

- Developed a deep learning system for in-vehicle intrusion detection that is efficient in terms of memory and communication overhead, achieving state-of-the-art results with a lightweight architecture.
- Used generative adversarial networks to create a novel encoding architecture for anomaly detection, achieving state-of-the-art results while maintaining a lightweight design.
- Proposed an in-vehicle data representation that can handle the detection of multiple cyber security threats and attacks, providing a robust and effective solution for protecting against these threats.

ITRUST REVEELUIM LAB TEAM | Data Scientist

October 2017 – January 2018 | France, Toulouse

- Implemented machine learning models to predict cyber security threats on modern security operating systems, and ported the existing implementation to the Spark framework.

IBM COGNITIVE SYSTEMS LAB | Data Scientist intern

Mars 2017 – August 2017 | France, Montpellier

- Conducted a benchmark study of deep learning frameworks (tensorflow, pytorch, keras) and provided sessions to introduce machine learning and different use cases to the team and clients.
- Worked on a health care use case to diagnose lung cancer using a cognitive solution based on deep learning, analyzing scans with 3DCNN and LSTM to forecast the probability of diagnosis.
- Completed an end-to-end data science project, including data understanding, preprocessing, training, validation, and deployment.

ALCIMED CONSULTING | Data scientist intern, developer

jun 2016 – sept 2016 | France, Paris

- Developed an intelligent tool to assist consultants with improving keywords and speeding up web searches, using techniques such as clustering, data visualization, text mining, crawling, scraping, and natural language processing. This involved conducting requirement analysis and specification with other consultants, and brainstorming to define the solution.

RESEARCH CENTER ON SCIENTIFIC AND TECHNICAL INFORMATION(CERIST) Text Mining, Developer

feb 2015 – may 2015 | Algeria , Algiers

- Implemented a robot to monitor websites and detect changes in textual content for commercial and competitive intelligence. This involved evaluating and developing state-of-the-art research, and building the application.