

# IHSAN ULLAH

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## PROFESSIONAL INTERESTS

Artificial Intelligence, Machine Learning, Data Science, Project Management, Product Development, Software Engineering

## EDUCATION

- Masters Artificial Intelligence** Sep 2020 – Present  
Université Paris-Saclay, Paris, France
- BS Computer Software Engineering** Sep 2013 – Aug 2017  
University of Engineering and Technology Peshawar, Pakistan  
CGPA: **3.70/4.0** Award: **University Gold Medal**

## WORK EXPERIENCE

- Data Science Internship** May 2022 – **Oct 2022**  
*Crédit Agricole SA, Paris*  
**Topic:** *Fairness in AutoML*
- AI Research Internship** May 2021 – Aug 2021  
*LISN, Université Paris-Saclay*  
**Topic:** *Meta-Learning, Computer Vision*
- Travail d'Etude et de Recherche** Jan 2021 – Feb 2021  
*Université Paris-Saclay*  
**Topic:** *ML Challenge Organization*
- Software Project Manager** Jan 2020 – Aug 2020  
*Codematics Inc, Abbottabad Pakistan*
- Software Engineer** Jan 2019 – Dec 2019  
*Codematics Inc, Abbottabad Pakistan*
- Software Engineer** May 2018 – Dec 2018  
*Ocheng 偶橙, Shanghai China*
- IOS Developer** Feb 2017 – Apr 2018  
*Codematics Inc, Abbottabad Pakistan*
- Software Requirement Engineer (Part time)** Oct 2016 – Feb 2017  
*Codecture, Abbottabad Pakistan*

## FREELANCE EXPERIENCE

**Machine Learning Researcher**  
*ChaLearn, USA*

Oct 2021 – Present

**Front-End Engineer**  
*OpenML (<https://openml.org/>)*

Mar 2022 – Present

## ACADEMIC & TRAINING EXPERIENCE

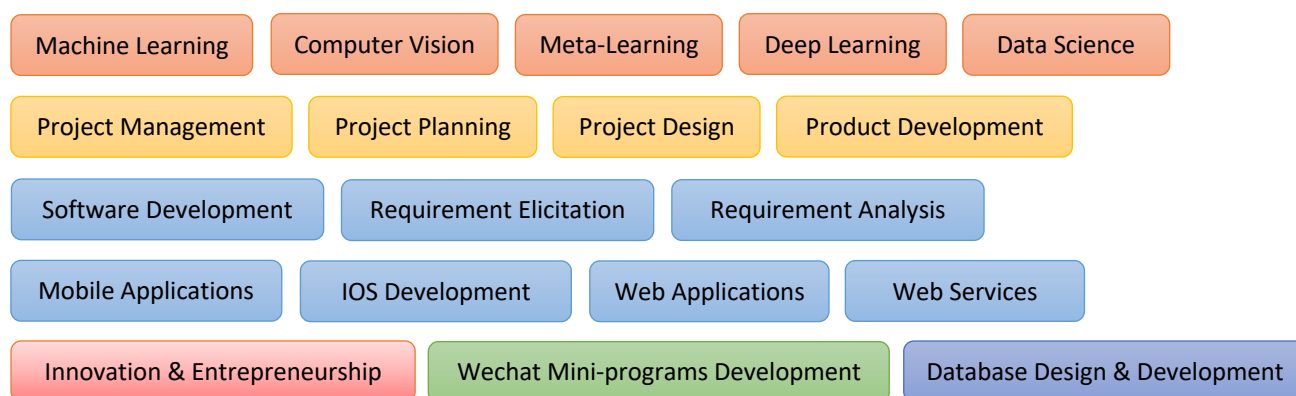
**Teaching Assistant**  
*Prof. Isabelle Guyon, Université Paris-Saclay*

Oct 2021 – Mar 2022

**Software Development & IT Trainer**  
*Urtaan, Abbottabad Pakistan*

Jan 2019 – Aug 2020

## PROFESSIONAL SKILLS



## PROGRAMMING LANGUAGES & TOOLS

<b>Programming Languages</b>	Python, Swift, Objective-C, Java, PHP
<b>Machine Learning Tools &amp; Lib</b>	Tensorflow, PyTorch, Scikit-Learn, Pandas, Numpy, Scipy, OpenCV
<b>Databases</b>	MySQL, NoSQL, Firebase database
<b>Web Dev Frameworks</b>	Laravel, React
<b>Web Programming</b>	HTML, CSS, Javascript, Bootstrap
<b>Mobile App Development</b>	IOS (Native), Android (Native), Flutter (Hybrid)
<b>Code Versioning</b>	Git, Github
<b>Technical Writing</b>	Research proposals, Project Proposals, Technical reports, Conference papers,

## PROJECTS

## Contributions

### Research Projects

#### **Bias Mitigation in Machine Learning and AutoML**

*A python library for bias detection and mitigation.*

*(Confidential : for internal use at Crédit Agricole)*

Bias detection in structured data, Bias mitigation algorithms

#### **Meta-Album meta-dataset**

*A meta-dataset for few-shot image classification.*

*Machine learning for low-data regime is an area of interest in the research. Few-shot learning is one popular way to tackle this problem. The lack of good, challenging and computationally feasible datasets is a hurdle in smooth progress in few-shot learning. To remedy this, we created Meta-Album meta-dataset for few-shot learning, meta-learning and other purposes. It consists of 40 datasets from different domains. This research is supervised by Professor Isabelle Guyon (LISN, Université Paris-Saclay, ChaLearn) and is submitted to NeurIPS 2022.*

<https://meta-album.github.io/>

Machine Learning, Deep Learning, Meta-Learning, Few-shot learning, Data preparation and processing

#### **Deep-Pollination**

*A series of Machine Learning challenges for insects classification.*

*Insects are very important for biodiversity, food chains, and pollination. It is of great importance to recognize insects, their habitats and to secure their natural environment. Machine learning, especially deep learning techniques can be used to recognize and classify various insects. We introduce Deep-Pollination, a series of three machine learning challenges organized on CodaLab for insects classification. A preprocessed version of the insects dataset (provided by MUSÉUM NATIONAL D'HISTOIRE NATURELLE) is used for these challenges which consist of five classes and more than 200,000 images. This project is supervised by Professor Isabelle Guyon (LISN, Université Paris-Saclay, ChaLearn).*

<https://github.com/ihsaan-ullah/deep-pollination>

Machine Learning, Deep Learning, Computer Vision, Challenge Organization

### Engineering Projects

#### **Spotter Application**

*A software based solution for selling and buying parking spaces in Milan, Italy.*

<https://www.spotterapp.it/>

Project Management, Design, Development and Deployment, IOS Development, Database design

#### **Kardaan Application**

*A software based solution and established startup for hiring handymen services in Pakistan and Australia*

<https://www.kardaan.app/>

Project Management, Design, Development and Deployment, IOS Development, Database design, Web services, Startup development

### **Hello Demo Application**

*An application for music makers to share their work in their network and get their music signed*

<https://hello-demo.com/>

IOS Development,  
Application deployment

### **Blood Community Application**

*An app based social services app to connect blood donors and receivers on one platform*

<https://www.codematics.co/portfolio/the-blood-community-app/>

IOS Development,  
Database design, Web services

### **YÔGA Real Estate Solution**

*A platform for renting apartments, rooms, office spaces etc. in Paris and Shanghai*

<http://yogarealestateshanghai.com/>

Project Management,  
Web Development, IOS Development, Database design, Web services

### **Mailman Group**

*A website for Shanghai based Sports consultancy agency*

<https://www.mailmangroup.com/>

Project Management

### **Guess the Word Game**

*A mobile game for strengthening brain power using gamifying knowledge*

<https://www.codematics.co/portfolio/guess-the-word-multiplayer/>

IOS Development

## **PUBLICATIONS**

### **Meta-Album: Multi-domain Meta-Dataset for Few-Shot Image Classification**

*Submitted to: Proceedings of the Neural Information Processing Systems Track on Datasets and Benchmarks (2022)*

<https://meta-album.github.io/paper/Meta-Album.pdf>

*Under Review*

### **Cross-Domain MetaDL: Any-Way Any-Shot Learning Competition with Novel Datasets from Practical Domains**

*NeurIPS 2022 Competition Track (2022)*

<https://metalearning.chalearn.org/#h.1u3w2mh9pbjf>

*Accepted*

### **Lessons learned from the NeurIPS 2021 MetaDL challenge: Backbone fine-tuning without episodic meta-learning dominates for few-shot learning image classification**

*PMLR - Proceedings of the NeurIPS 2021 Competition and Demonstration Track (2022)*

<https://hal.archives-ouvertes.fr/hal-03688638>

*Published*

### **MetaDL: Few Shot Learning Competition with Novel Datasets from Practical Domains**

*NeurIPS 2021 Competition Track (2021)*

<https://metalearning.chalearn.org/metadlneurips2021>

*Accepted*

### **Deep-Pollination: A series of ML challenges for multi-class insects classification**

*Junior Conference on Data Science and Engineering (2021)*

[https://github.com/ihsaan-ullah/deep-pollination/blob/master/JDSE\\_2021\\_Deep\\_Pollination.pdf](https://github.com/ihsaan-ullah/deep-pollination/blob/master/JDSE_2021_Deep_Pollination.pdf)

*Accepted  
(Poster)*

### **Data Efficient Learning: A comparison of Transfer Learning and Meta-Learning**

*Junior Conference on Data Science and Engineering (2021)*

[https://github.com/phanav/publication/blob/main/jdse/JDSE\\_fewshot.pdf](https://github.com/phanav/publication/blob/main/jdse/JDSE_fewshot.pdf)

*Accepted  
(Poster)*

## HONORS AND AWARDS

<b>Masters Excellence Scholarship</b> <i>Université Paris-Saclay / Labex Digicosme</i>	2020-2022
<b>University Gold Medal</b> <i>University of Engineering and Technology Peshawar</i>	2017
<b>Winner of 1 year Incubation for Startup KARDAAAN</b> <i>National Incubation Center, Islamabad Pakistan</i>	2019 - 2020
<b>8<sup>th</sup> position all over the country – Huawei ICT Skills Competition</b> <i>Arranged by Huawei</i>	2016
<b>2nd position in province – KP Apps Challenge</b> <i>Arranged by Khyber Pakhtunkhwa (KP) Information Technology Board and World Bank</i>	2014

## LEADERSHIP

<b>President, Academics Society</b> <i>University of Engineering and Technology Peshawar</i>	Sep 2016 - July 2017
<b>Vice President, Academics Society</b> <i>University of Engineering and Technology Peshawar</i>	Sep 2015 - Sep 2016
<b>Events Organizer</b> <i>University of Engineering and Technology Peshawar</i>	Sep 2015 - July 2017
<b>Basketball Coordinator, Sports &amp; Recreational Society</b> <i>University of Engineering and Technology Peshawar</i>	Sep 2014 - July 2017

## REFERENCES

**Prof. Isabelle Guyon**  
Professor, Masters Artificial Intelligence  
Université Paris-Saclay, France  
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**Prof. Kim Gerdes**  
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Université Paris-Saclay, France  
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