Quentin GOUTALAND

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DATA SCIENCE PROJECTS

RAW PHOTOS CATEGORIZATION Repository 07/2022

The goal of this project is to predict the category of each photo among 10 using a CNN and write it in its exif metadata.
The dataset was formed scraping photos with Flickr API in Pyhon ($\simeq 15000$ photos in all).
Using transfer learning from MobileNet with freezed weights and a softmax head layer, I get a model with an accuracy of 93% on the validation set.

SKILLS

Languages	French (mother tongue) • English (fluent)
Programming	Python • C/C++ • SQL • Javascript • HTML • CSS
Tools	Numpy • Pandas • Matplotlib • Seaborn • Scikit-learn • Tensorflow
Edition	Latex • Beamer
Others	Jupyter Notebook • Mathematica • Github • Octave

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EDUCATION

November 2022 **PhD in Theoretical Physics, UNIVERSITÉ PARIS CITÉ (UP CITÉ), France (Expected)**
Subject : Collective dynamics of passive and conformationally active membrane proteins
Supervisor : Jean-Baptiste Fournier
- Theoretical modelization and analysis using Statistical Mechanics and Statistical Field Theory.
- Numerical simulations using C.
- Numerical analysis using Python.

2019 M.Sc. Physics of Complex Systems, UNIVERSITÉ PARIS SACLAY, France – with highest honors

2018 M.Sc. ICFP Condensed Matter, UNIVERSITÉ PARIS SACLAY, France – with honors

2016 B.Sc. in physics, UNIVERSITÉ PARIS SACLAY, France – with high honors

2015 Prep school, LYCÉE BLAISE PASCAL, Clermont-Ferrand

EXPERIENCE

June 2022 – September 2019 **Teaching | IUT Paris-Diderot, UP CITE, Paris**
- Mechanics labs (solid-solid frictions, 1 and 2 degrees of freedom oscillators, elastic collisions).
- Wave Optics tutorials (interferences, diffraction)

June 2019 – March 2019 **Internship | MSC Paris, UP CITE, Paris**
- Subject : Active matter of field-interacting switching particles.
- I applied a theoretical modelization of a biological membrane in the point of view of statistical field theory.

June 2018 – March 2018 **Internship | LPS, UP SUD, Orsay**
- Subject : Time-dependent Quantum Transport
- I learned andapplied a nonequilibrium formalism to study the dynamical Coulomb blockade.

July 2017 – April 2017 **Internship | IFW, DRESDEN, Germany**
- I performed NMR measurements on a 1D spin chain of linarite to determine the presence of a multi-polar order.