# Nicolas Trinephi

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## SUMMARY

Master's graduate in computational science with industry experience in deep learning algorithms applied to time series prediction using cloud data flow tools such as Databricks. I always strive to exceed targets, work efficiently and communicate effectively and am currently seeking my next opportunity in Software Development.

## EDUCATION

**Master of Science**: Applied Computational Science **Sept 2019 - Sept 2020**
*Imperial College London - London, UK*

- **Relevant Coursework**: PyTorch Classification and Transfer Learning, Machine Learning, Optimisation, Numerical Methods, C++ Advanced Programming
- Thesis title: *Deep Learning in Virtual Flow Metering*

**Bachelor of Engineering (Hons)**: Mechanical Engineering with Finance **Sept 2016 - July 2019**
*University College London - London, UK*

- Thesis title: *Particle Suspensions in Microfluidic Applications*

## WORK EXPERIENCE

**Graduate Teaching Assistant**: Applied Computational Science **Sept 2020 - Present**
*Imperial College London - London, UK (Remote)*

- Supported student learning by holding office hours to explain solutions, methods and key concepts of programming and machine learning.
- Maintained academic excellence through coaching 10 students on work habits and mental health with one-on-one meetings.

**Data Science Intern** **June 2020 - Sept 2020**
*Wintershall DEA - Hamburg, Germany*

- Streamlined project management and decision making by performing statistical and bi-variate analysis of 13 years of raw industrial oil production data on Azure Databricks using Apache PySpark.
- Designed interactive visualization of the data in Python using Plotly and HVplot for more effective data comprehension and analysis.
- Successfully forecast production rates with RMSE <1% by applying various LSTM recursive neural networks using Keras and monitoring the life cycle with MLflow.
- Formally communicated forecast results by presenting company-wide L3 presentation.

**Primary Mentor** **May 2019 - July 2019**
*UCL MechSpace - London, UK*

- Coached students on design and technical platforms such as CAD and ARDUINO systems which ensured the success of projects such as the Hydrone Hydrogen Racecar.
- Oversaw the safety of the workshop by supervising working students, facilitating machine operations, and training students in processes such as 3D printing and laser cutting.

## PROJECTS

**CIFAR-10** *Py* **2020**

- Placed in the top 10 (categorization Accuracy 0.8) by applying PyTorch transfer learning with EfficientNet to classify over 10,000 images in a school Kaggle competition.

**Conway's Game of Life in Parallel** *C++* **2020**

- Implemented Game of Life in parallel using C++ MPI and object oriented programming wherein the number of cores is user-configurable with a post processing script developed in Python.

**Micro-Particles Image Processing** *Matlab* **2019**

- Processed over 2000 images using self-written MATLAB border contour, filling and counting scripts and analyzed results using particle suspension rheology theory.

## SKILLS

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| Languages | **Native** English and French, conversational Spanish |
| Programming | Python, C++, MATLAB, Bash, LaTeX, HTML, MySQL, Dox BAT |
| Packages | Keras, PyTorch, PySpark, MLflow, sklearn, XGBoost, Plotly, HoloViews, C++ MPI |
| Technical | Databricks, Apache Spark, Microsoft Office, GitHub, CATIA V. 5, Origin Pro |