# Facundo Emmanuel Messulam

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## **STUDIES**

Colegio San Bartolomé (Colegio Inglés de Rosario)

Instituto Politécnico Superior Graduated: 2018

Facultad de Ciencias Exactas, Ingeniería y Agricultura

Advanced (4 of 5 years)

Graduated: 2011

Licenciatura en Ciencias de la Computación

### **EXPERIENCE**

#### MangooDev

Full Stack Developer

*Apr* 2018 - Aug 2018

- Design and creation of a web app with JHipster framework
- Backend Spring (Java)
- Working in a team with around five people

#### MangooDev

Front End and (afterwards) Full Stack

Dic 2019 - Feb 2020

- Development of front end of a web app with PHP
- Web app migration from PHP to JHipster, with complete database migration to entities system
- Backend Spring (Java)
- Team work with two people coordinating tasks
- Helped a team mate learn object oriented programming

#### Plantium

Researcher of artificial intelligence on plants

Sep 2021 - Present

- Caffe, with DIGITS, TensorFlow 2, OpenCV
- Work on autonomous robot with ROS (Robot Operating System)
- Investigative work over a big number of tools to find a solution which works best for a specific problem (like labeling specific datasets)
- Creation of prototypes using Jupyter notebooks and C++
- Work on embedded systems Nvidia Jetson, with the Nvidia Jetpack suite, on ARM architecture focused on inference
- Coordinated work with experts in several fields: agronomic engineers, electronic engineers, mechanical engineers, among others

# **PROJECTS**

**Paper Detector** 2021 link: https://github.com/EmmanuelMess/Detect-Papers • Open source, available on GitHub Made with C++ and OpenCV • Algorithmically process all 3 channels independently Synthetic Image Renderer 2021 link: https://github.com/EmmanuelMess/SyntheticImageRenderer • Open source, available on GitHub Made with C++, Ogre and OpenCV • Renders a 3D scene with programmatic randomization Allows changing background of result to another image 2021 **EMNIST classification with Keras** 

 $link: \ https://www.kaggle.com/emmanuelmess/using-mnist-model-for-emnist-89-w-keras$ 

- Open source, available on Kaggle
- Created with Python/Jupyter notebooks
- Data augmentation with transformations
- Correct classification of 89.6% of images

# **ADICIONAL**

- Fluent in English (C2 level)
- Studing Chinese
- Expierience working with CUDA and OpenCV
- Expirience with Caffe, Tensoflow (Keras) and some PyTorch
- Limited expirience with Qt
- Knowledge on data structures: trees, sequences, stack, queue, vector, etc
- Knowledge of costs: asymptotic cost, app profiling
- Knowledge of object oriented programming, imperative programming and functional programming
- Knowledge of neural nets, optimization algorithms theoretical knowledge
- Programming languages: Java, Kotlin, Python, C, C++, PHP, HTML/CSS, Javascript, assembly (WASM, MIPS)