BIGATA Antoni

PhD candidate at Imperial College London and Meta AI

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EXPERIENCE

PhD in Machine Learning

Imperial College London and Meta AI

📅 October 2022 - Ongoing   📍 London, United Kingdom

- Research on generative ai and facial animation under the guidance of Prof. Maja Pantic.
- Focused on enhancing cutting-edge generative models, such as diffusion models, for video generation using image and audio inputs.
- Latest project page: Laughing-Matters

Research Scientist Intern

Meta AI

📅 May 2024 - November 2024   📍 London Area, United Kingdom

- Working on cutting-edge research in generative AI and video synthesis, with a focus on enhancing diffusion models for long-coherent speech-driven animations.
- Collaborating with interdisciplinary teams to advance state-of-the-art techniques in facial animation, emotion modeling, and video interpolation.

Perception Engineer

Computer Vision Center

📅 June 2021 – September 2022   📍 Barcelona, Spain

- Designed and deployed deep learning models for autonomous vehicles in a rural environment utilizing PyTorch and ROS.
- Addressed a range of tasks, including segmentation, 3D and 2D object detection, monocular depth estimation, pedestrian intention prediction, and object tracking.

Junior Machine Learning Engineer

Visium SA

📅 February 2020 – July 2020   📍 Lausanne, Switzerland

- Developed and deployed a deep learning model for time-series forecasting, leveraging TensorFlow and React.
- Achieved a significant improvement in accuracy, with the new model surpassing the previous approach by over 30%.

PROJECT

Realistic Talking Face Animation

Intelligent Behaviour Understanding Group - Imperial College

📅 September 2020 - April 2021   📍 London, United Kingdom

- Research project at Prof. Maja Pantic's Laboratory under her supervision and with guidance from Prof. Pascal Fua at EPFL.
- Aimed to develop a speech-driven facial animation technique that accurately captures lip sync, eye-blink, and natural head motion solely based on speech input.
- Implemented a generative adversarial network (GAN) using PyTorch for this purpose.

EDUCATION

Master in Robotics

EPFL, Lausanne

📅 September 2018 – April 2021

GPA: 5.3/6

Bachelor in Microengineering

EPFL, Lausanne

📅 September 2015 – June 2018

International Baccalauréat (OIB)

Cité scolaire internationale, Grenoble

📅 September 2012 – June 2015

French and Spanish High School diploma

SKILLS

PROGRAMMING
- **Most experienced:** Python, C
- **Experienced:** Java, JS, C++
- **Basic knowledge:** SQL, Android

LIBRARIES
- **Machine Learning and Computer Vision:** PyTorch, Keras, TensorFlow, Scikit-Learn, OpenCV, Scikit-Image
- **Data analysis:** Pandas, Seaborn, Spark
- **Robotics:** ROS
- **DevOps:** Docker, Git, Flask, React

LANGUAGES

English   ●●●●●
French   ●●●●●
Spanish   ●●●●●
Catalan   ●●●●●
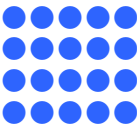
COURSEWORK

Machine Learning
Computer Vision
Deep Learning
Mobile Robotics
Applied Data Analysis
Intelligent Agents and Genetic Algorithms
Optimal Decision Making
Aerial and Swarms Robotics

OTHER INTERESTS

NGO support: Participated in the 4L trophy
Sports: Basketball, Ski, Hiking, Chess