Johnny Núñez Cano

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EDUCATION

Universitat de Barcelona/Computer Vision Center   Barcelona, BCN
PhD. in Computer Vision, **GPA: -**   May 2024 - Current
- Relevant Courses: Human-Robot-Object-Interactions (HROIs), Generative AI, Edge, Robotics, Video Analysis, 3D Vision, Detection, Multimodal, Psychology
- Honors: **-**

Universitat Autónoma Barcelona/Computer Vision Center   Barcelona, BCN
M.S. in Computer Vision, **GPA: 7.85**   Exp Sep 2023
- Relevant Courses: Intro to Computer Vision, Video Analysis, 3D Vision, Detection
- Honors: **-**

Universitat de Barcelona   Barcelona, BCN
M.S. in Fundamental Principles of Data Science, **GPA: 8.5**   Exp July 2022
- Relevant Courses: Intro to Databases, Machine Learning, Deep Learning, Big Data, Ethics
- Honors: **Computer Vision**

Universitat de Barcelona   Barcelona, BCN
B.S. in Computer Science, **GPA: 7.1**   Exp June 2021
- Relevant Courses: Intro to Computer Science, Analysis of Algorithms, Deep Learning
- Honors: **Machine Learning**

TECHNICAL SKILLS

Languages: C/C++/C#, Python, R, Java, HTML5/CSS, SQL, Bash, Yaml
Frameworks: Pytorch**,** TensorFlow, Keras, Caffe, OpenCV, scikit-learn, NumPy, Pandas, Hydra
Databases: PostgreSQL, MongoDB, Firebase
Other Tools: Github, DataGrip, Basics of Google Cloud Services, AWS, Docker

PROFESSIONAL EXPERIENCE

Fundació Bosch i Gimpera   Barcelona, BCN

Researcher Student   Nov 2023 – Current
Deep Learning Researcher.

- Developing an international private project focused on small multi-object detection and tracking in complex environments. In parallel, researching novel knowledge distillation and quantization techniques for Edge AI.

Human Pose Recovery and Behavior Analysis   Barcelona, BCN
Researcher Student   Sep 2020 – Current
- Computer Vision for human analysis.
- Deep Learning
- Co-Organizer Challenges.
- Creation and support for datasets.
- Papers publications.
- Master thesis.

Milestone Systems   Barcelona, BCN
Researcher Student   Mar 2023 – Nov 2023
- Loitering Anomaly Detection
- Master thesis
- Mathematical Algorithms
- Computer Vision
- Machine Learning

Brodynt/Expereo   Barcelona, BCN
Junior IT Manager   Aug 2020 – Sep 2021

- Working on Odoo Framework, developing and implementing software solutions.
- Providing technical assistance to customers and users of the software.
- Utilized Python to create API's using Flask, PostgreSQL, and monitoring software as Centreon.

PUBLICATIONS

"Identifying Loitering Behavior With Trajectory Analysis"   Oct 2023 - Jan 2024

- **Reference:** https://openaccess.thecvf.com/content/WACV2024W/RWS/papers/Nunez_Identifying_Loitering_Behavior_With_Trajectory_Analysis_WACVW_2024_paper.pdf
- **Principal Author.**
- New dataset published.
- This research introduces a standardized definition and detection method for loitering, using trajectory analysis in a privacy-compliant thermal drift dataset annotated with various loitering behaviors.

"Comparison of Spatio-Temporal Hand Pose Denoising Models"   Feb 2022 - Jul 2022

- **Reference: Master Thesis**
- **Principal Author.**
- Algorithm to extract noise from the UDIVA v0.5 dataset to generate data augmentation of noisy poses.
- Implementation of all types of architectures in spatio-temporal deep learning models.
- Implementation of evaluation metrics and inference.

"Chalearn LAP challenges on self-reported personality recognition and non-verbal behavior forecasting during social dyadic interactions: Dataset, design, and results"   Sep 2020 - Nov 2021

- **Reference: https://proceedings.mlr.press/v173/palmero22b.html**
- **Co-organizer.**
- Preparation of Transcripts for the challenge.

"Didn't see that coming: a survey on non-verbal social human behavior forecasting"   Sep 2021 - Dec 2021

- **Reference: https://proceedings.mlr.press/v173/barquero22b.html**
- **Second Autor.**
- Study and search of datasets about the topic.

"Comparison of Spatio-Temporal Models for Human Motion and Pose Forecasting in Face-to-Face Interaction Scenarios"   Sep 2021 - Dec 2021

- **Reference: https://proceedings.mlr.press/v173/barquero22a.html**
- **Second Autor.**
- NLP applied for transcriptions to multimodal input models.

PROJECTS

"Collaborating with Nvidia AI in some AI projects"   Jun 2023 – Jun 2024

- Review RTX A6000 Ada Lovelace
- Jetson AGX Orin 64GB: Updating documentation and Libraries.
- Article writing in Nvidia Blogs and collaborations in GitHub and hackmd.io.
- Fine-tuning and deployment Generative AI in Jetson AGX Orin 64GB.
- Invited by Dell Technologies and Nvidia at Smart Cities Barcelona 2023.