Brayan S. **Zapata Impatá**

Researcher & Engineer

Valencia, Spain

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Work Experience

Amazon
Madrid, Spain

Applied Scientist — *Oct. 2020 - Present*

- Develop ML models to fix item data quality issues in the catalogue, so customers do not experience defects during shopping sessions.
- Research on ways to extract products' properties like style or measurements from images, text and tabular data.
- My contributions have improved the metadata quality of millions of products in our catalogue worldwide so far.

University of Alicante
Alicante, Spain

Robotics Research Engineer — *Apr. 2017 - Sep. 2020*

- Researched on robotic grasping, grasp assessment and control based on computer vision and tactile perception with multi-fingered hands.
- Delivered novel solutions that tackled robotic manipulation tasks using deep learning models like CNNs, LSTMs, GCNs and GANs.
- Proposed a research roadmap for the laboratory related to robotic manipulation which resulted in 2 MSc thesis apart from my PhD.

Amazon Robotics AI
Berlin, Germany

Applied Science Intern — *Mar. 2020 - Aug. 2020*

- Carried out research on visual perception for detecting object manipulation defects in logistics.
- Implemented an image-based and a video-based large-scale learning models to recognise defects on real time.
- Presented the idea to senior managers and delivered a working solution to mitigate an economically impactful defect caused by manipulators.

Northeastern University
Boston, United States

Visiting Scholar — *May. 2018 - Sep. 2018*

- Studied the ways a mobile manipulator could help people at farms, construction sites and cities.
- Designed and implemented a mobile manipulation system, providing it with autonomy at three levels: grasping, navigation and task planning.
- The system achieved 80.8% grasping rate, navigated without issues 96.1% of the trials, and yielded 85.7% overall task success rate.

Critical Future LTD
London, England

Computer Vision Consultant — *Mar. 2018 - May. 2018*

- Led the technical development of a solution for a health-care company to detect skin cancer from pictures of skin moles.
- Collaborated with medical experts on the design of the system and its evaluation protocol.
- Implemented an ensemble of models, including CNNs, Gradient Boosting Trees and SVM, which met our customer's requirements.

Teralco
El Altet, Spain

Business Intelligence Engineer — *Jul. 2015 - Dec. 2016*

- Automated ETL process to load AWS Redshift database, reducing processing times from 2 days of human work to 6 computing hours.
- Collaborated with marketing staff in data analysis projects, like client segmentation, proposing solutions from a machine learning perspective.

Education

University of Alicante
Alicante, Spain

PhD in Robotics and Machine Learning — *Oct. 2016 - Sep. 2020*

- Thesis (Available here): "Robotic Manipulation based on Visual and Tactile Perception" - Graded as PhD *cum laude*.
- Proposed fast solutions that scale for robotic grasping as well as innovative methodologies for processing visual and tactile perception.
- Applied deep learning and computer vision techniques to 2D images, 3D point clouds and tactile data.

University of Alicante
Alicante, Spain

M.S. in Computer Engineering — *Oct. 2015 - Feb. 2017*

- Thesis: "Using Open Research Data for Building Recommendation Systems" - Graded with honours.
- Proposed a research tool for downloading, processing and building learning models from open research data.
- Specialised in applied artificial intelligence for R&D.

University of Alicante
Alicante, Spain

B.S. in Computer Engineering — *Sep. 2011 - Jul. 2015*

- Thesis: "Application of Swarm Intelligence for Improving a Clinical Decision Support System" - Graded with honours.
- Specialised on data mining, computer vision, robotics and artificial intelligence.