



## CONTACT

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## SOFT SKILLS

- Resilience and Commitment
- Results Oriented
- Teamwork and Communication
- Leadership
- Growth Mindset

## HARD SKILLS

- Programming (Python, Java, C\C++,...)
- Deep Learning, NLP, Computer Vision
- LLM fine-tuning & Multimodal
- AI Agents
- Autonomous Robotics, VR, AR
- Experimental Research, Paper Writing
- Data Analysis (ElasticSearch, PowerBI, Excel)
- Databases (MySQL, Mongo, ElasticSearch)

## LANGUAGES

- Spanish - Native
- English - Fluent

## FUTURE

Incoming PhD student in the Aeronautics and Astronautics space engineering department at MIT. Fall 2025.

# ALEJANDRO CARRASCO

## SOFTWARE ENGINEER

### EXPERIENCE

#### RESEARCH

##### Massachusetts Institute of Technology - Visiting Student

Oct, 2024 - March 2025

Researched Vision-Language, Diffusion models & VR.  
1 Conference Paper. 1 Journal Submission.

##### Universidad Politécnica de Madrid - Research Collaborator

Jan, 2024 - July, 2024

Researched Large Language Models agents performing spacecraft operations.  
1 Conference Paper. 1 ArXiv Pre-Print

#### PROFESSIONAL

##### Vodafone Spain - Systems Engineer Intern

Jun, 2023 - March, 2024

Developed a 1-click incidence tracking dashboard and optimized database queries, reducing 75% of irrelevant data.

### AWARDS

- KSPDG Challenge 2024 Second Place
- KSPDG Challenge 2025 Second Place
- Special Honors Bachelor's Thesis
- UPM National Defense Best Bachelor's Thesis

### EDUCATION

#### BACHELOR OF SCIENCE - SOFTWARE ENGINEERING

Universidad Politécnica de Madrid  
2020-2024

#### DEEPLARNING SPECIALIZATION

DeepLearning.AI  
2023

#### CLOUD COMPUTING

Coursera - Illinois Urbana Campaign  
2023

#### FUNCTIONAL PROGRAMMING IN SCALA

Coursera - École Polytechnique Fédérale de Lausanne  
2023

#### COMPUTER SCIENCE 6.00.1X AND 6.00.2X

2020-2021  
MITx

## SPECIAL MENTION

### UNDERGRADUATE STUDIES

- Top **7%** of my class
- **10** Courses with **Honors**
- Member of Core Dumped association
- 2023 Data Science Mentor with real university credits
- Founded a **Community Engagement project** that was one of the founding members of the MUN debate club of my university

### PERSONAL

- Musical Interest - Played **flute** for 6 years and learning piano
- Spend 20 minutes minimum each day **reading** books about **multiple domains** (e.g. cognitive sciences, economy, philosophy)
- Strong passion for the **automotive** industry.

### SMALL PROJECTS

- Developed a **mobile app** that suggests donut stores using a **real-time map interface**.
- Led '**Indivität: The Self vs. the Other**', a community project promoting discussion and engagement.
- Created a **VR** game inspired by Angry Birds mechanics.
- Built a Discord bot utilizing **Client-Server WebSocket interactions**.
- **CNN Vision Network** in MNIST dataset
- Applied **Random Tree Forest** to predict **train ticket prices** in the spanish market.

## VOLUNTEERING

### COMMUNITY ACTION

Dynamis Consultores de Talento  
Nov 2022 - Jun 2023

Founded a project to organize and mentor the youth community with short self-proposed debate sessions.

### ELDERLY ASSISTANCE

Asociación VOLAN  
Nov 2015 - Jun 2016

Helped elder people in a nursing home to enjoy their time on the weekends and holiday dates, especially the ones that were not visited often.

## ASSOCIATIONS

### PARTNER

Core Dumped - Universidad Politecnica de Madrid  
Nov 2022 - Dec 2023

I've participated in various software projects. I also have been mentoring in an official university course orchestrated by this association about Data Science.

## PUBLICATIONS & TALKS

- 2025, **Visual Language Models as Operator Agents** in the Space Domain. Alejandro Carrasco, Marco Nedungadi, Victor Rodriguez-Fernandez, Richard Linares. AIAA SciTech Conference Session Paper.
- 2025, **AIAA SciTech Talk**. I will present on my participation with MIT and UPM in the KSPDG challenge, highlighting our second-place achievement and contributions to autonomous spacecraft control using AI.
- 2024, **Fine-tuning LLMs for Autonomous Spacecraft Control: A Case Study Using Kerbal Space Program**. Alejandro Carrasco, Victor Rodriguez-Fernandez, Richard Linares. SPAICE 2024 Conference Poster. [10.5281/zenodo.13885579](https://doi.org/10.5281/zenodo.13885579).
- 2024, **Language Models are Spacecraft Operators**. Victor Rodriguez-Fernandez, Alejandro Carrasco, Jason Cheng, Eli Scharf, Peng Mun Siew, Richard Linares. ArXiv preprint. [arXiv:2404.00413](https://arxiv.org/abs/2404.00413).
- 2023, **Indivität**: Delivered a talk on founding a youth community debate club focused on critical thinking, public speaking, and fostering collaborative discussions among peers.