# MARCOS CARBONELL

## Software Engineer 🐧

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## EXPERIENCE

### Techical Lead
**Susi & James GmbH**

📅 May 2022 – Ongoing        📍 Mannheim, DE

- Web technology consultant for miscelaneous internal projects
- Agile SCRUM Master of a web development team
- Software development lead
- Software architect
- Database table architect
- Development of conversational engines using RASA
- Configuration of web NLP solutions using SAJ's EVA stack
- Implementation of unit and E2E tests in Cypress
- Implementation of Gitlab CI/CD pipelines with Bash
- Implementation of frontend features with React.js
- Implementation of backend features with Python3

### DevOps Engineer
**ForkOn GmbH**

📅 July 2019 – May 2022        📍 Heidelberg, DE

- Implementation of Gitlab CI/CD pipelines with Bash
- Design and implementation of automatic staging deployments
- Implementation of a complete frontend test suite with Cypress
- Installation and configuration of server & web monitoring with Zabbix
- Automation of database & source code backups
- Implementation of Gitlab CI test jobs for Cypress & PHPUnit in Docker
- AWS, Gitlab and Jira administrator
- Head of operations for a period of 1.5 years
- SCRUM Master for a period of 3 months
- Implementation of frontend features with VUE.js
- Implementation of backend features with Laravel PHP

### Frontend Developer
**Trio Interactive GmbH**

📅 August 2018 – July 2019        📍 Mannheim, DE

- Implementation of frontend features with VUE.js
- Implementation of backend features with Laravel
- Implementation of CMS features using Drupal 8

### Rider
**Foodora GmbH**

📅 October 2017 – August 2018        📍 Mannheim, DE

- Pick up food from restaurants and deliver it warm to the customer using my bicycle

## TECH TALKS

### Economic Frontend Testing
**MADNESS Tech Community**

📅 March 2021

▶ https://tinyurl.com/yz5ek8bh

### Wie schreibt man Linux Treibern?
**Heidelberg University**

📅 March 2019

▶ https://tinyurl.com/mw9ttw8r

## EDUCATION

### OAC Philosophy Degree
**Ayn Rand Institute**

📅 Sept 2021 – Ongoing

### B.S. in Computer Science
**Heidelberg University**

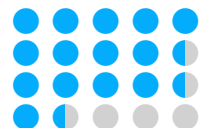📅 Sept 2018 – March 2022

### B.S. in Mathematics
**Heidelberg University**

📅 Oct 2017 – Sept 2018
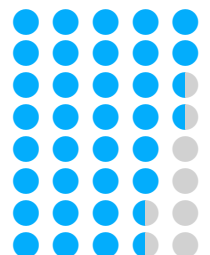
Not completed due to transfer towards computer science.

## LANGUAGES

**Spanish**
**German**
**English**
**French**

## MORE LANGUAGES

**JavaScript**
**Bash**
**Python**
**C/C++**
**PHP**
**R**
**Octave**
**Java**

# SOFTWARE PROJECTS

## Machine Learning

### ML Programming Language Translation Using RL

**Heidelberg University**

📅 July 2021 – March 2022    📍 Heidelberg, DE

I wrote an AI than can translate C++ to Python or Java and vice-versa using a neural NLP approach basing myself on the [TransCoder](#) repository from Facebook Research. The project is mostly written in Pytorch.

 https://gitlab.com/markcarbonell2013/rl-language-translation

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### ML Economic Impact of Covid-19 Regulations

**Heidelberg University**

📅 March 2021 – July 2022    📍 Heidelberg, DE

My partner and I analyzed world bank economic data using Gaussian Processes to identify the anti-covid regulations with the smallest economic effect. We mostly used the Pytorch and Pandas libraries.

 https://gitlab.com/markcarbonell2013/aml-final-project

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### ML Don't Panic!

**HackZurich 2020**

📅 Sep 2020    📍 Zurich, CH

My team and I used neural NLP techniques to perform sentiment analysis on news and twitter announcements from 2020 and draw a real-time heatmap of the amount of positive or negative posts major Swiss cities. The project tech stack consisted of a VUE.js frontend, a Spring Boot Java backend and an NLP module written in python.

 https://gitlab.com/ThmX/hackzurich2020
 https://tinyurl.com/2p8hm7df

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### ML Demo for VUnet and Unsupervised Disentangling

**Heidelberg Collaboratory for Image Processing**

📅 July 2020 – December 2020    📍 Heidelberg, DE

I modified the code from [1] and [2] to implement a Google Colab demo for each paper during my software practical. Both projects are deep generative CNNs written in Pytorch and Tensorflow that can transfer shape and appearance from one object to another. For example, it can transfer the clothes of a fashion model on another model with a different pose. The VUnet paper even has his own video in [two-minute-papers](#)

 https://github.com/MarkCarbonell98/unsupervised-disentangling
 https://github.com/MarkCarbonell98/vunet-demo

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### ML Comparison of Historical CNN Architectures

**Heidelberg University**
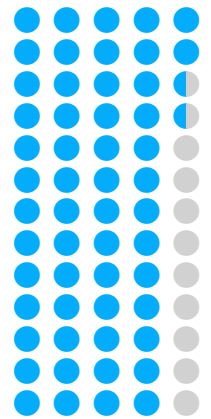
📅 March 2021 – July 2021    📍 Heidelberg, DE

My partner and I summarized four historical CNN models and compared their performance for the task of object detection. Project written mostly written in Pytorch and Tensorflow.
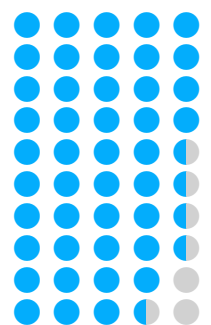
 https://gitlab.com/markcarbonell2013/deep-vision-project-v2.0

# LIBS & FRAMEWORKS

| | Rating |
|---|---|
| **Docker** | ●●●●● |
| **Cypress** | ●●●●● |
| **Apache Airflow** | ●●●●◐ |
| **VUE.js** | ●●●●◐ |
| **Apache Kafka** | ●●●●○ |
| **Apache Spark** | ●●●●○ |
| **React.js** | ●●●●○ |
| **SASS** | ●●●●○ |
| **Laravel** | ●●●●○ |
| **PHPUnit** | ●●●○○ |
| **Pytorch** | ●●●○○ |
| **Tensorflow** | ●●●○○ |
| **OpenCV** | ●●●●○ |

# EDITORS & TOOLS

| | Rating |
|---|---|
| **VIM** | ●●●●● |
| **VSCode** | ●●●●● |
| **Gitlab** | ●●●●● |
| **Zabbix** | ●●●●● |
| **AWS Cloud** | ●●●●◐ |
| **DBeaver** | ●●●●● |
| **Jira** | ●●●●◐ |
| **Firebase** | ●●●●◐ |
| **NetCup Cloud** | ●●●●○ |
| **Android Studio** | ●●●◐○ |

# ACHIEVEMENTS & AWARDS

**BIDS Scholarship (2017-2018)**
Motivational scholarship the department of international relations at the University of Heidelberg.

**Gold Plate for Sports Merit (2016)**
Recognition granted by the sports department of the Humboldt School of Caracas for representing the school in the international Alexander von Humboldt athletics and volleyball competition in 2015.

**Most Exemplar Student (2016)**
Recognition granted by my fellow school students during our graduation ceremony at the Humboldt School of Caracas.

**Most Social Labor Hours (2016)**
Recognition granted for being the student of my promotion with the most social labour hours (1554). Labour made for the Venezuelan Red Cross.

**Imja Tse Summit 6189m (2012)**
With only 14 years of age, I managed to reach the summit of the Imja Tse peak in the Himalayas at 6189m as a member of the [Children On Summit](#) project season II Venezuela-Nepal.

## Web Development

### Web Tildea

📅 August 2019　　　📍 Heidelberg, DE

A website that teaches you how to write Spanish accents correctly, also known as "tildes". Written with the help of my roommates Jesus Casal and Alexander Becker in React. Final design and game implementation made by Alexander Becker.
🌐 https://tildea-app.web.app/
🦊 https://gitlab.com/markcarbonell2013/tildea-react

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### Web Prodzr

📅 July 2020 – Ongoing　　　📍 Heidelberg, DE

A productivity app designed to plan and track your progress towards long term goals. Think of it as a mixture of Google Calendar with Todoist and a habit tracker. Currently in development with major collaboration from Jesus Casal, Alexander Becker and Roxana Higgins.
🌐 https://prodzr-demo.web.app/
🦊 https://gitlab.com/alexnb98/prodzr

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### Web Natours Project

📅 September 2018　　　📍 Heidelberg, DE

A website made with inspiration from an Udemy course to practice my SASS and SCSS skills. The website is pure HTML and CSS, no JS used at all!
🌐 https://natours-project98.web.app/

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### Web My First Website

📅 March 2018　　　📍 Mannheim, DE

The first website I ever programmed from 2018. No external libraries or packages were used. Only HTML, CSS and JavaScript written by my own hand.
🌐 https://markcarbonell98.github.io/about/about.html
🦊 https://gitlab.com/markcarbonell2013/MarkCarbonell98-github-io

## NON-SOFTWARE OCCUPATIONS

### Mountain Guide
**Mountain Camp Sagarmatha**

📅 December 2013 – July 2016　　　📍 Merida, Venezuela

Guide of outdoor activities for children between 8-18 years of age. Including rock climbing, geographic orientation with compass, mountain biking and a 5 day expedition to a mountain above 4500m in the Venezuelan Paramo.
🌐 https://www.sagarmathacamp.com/

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### Veterinary Assistant
**Egoavil-Sardiñas Veterinary Clinic**

📅 July 2016 – August 2017　　　📍 Caracas, Venezuela

Assistant of two veterinarians. My responsibilities included x-raying patients, preparing blood samples, surgical and birth assistant.
🌐 https://www.mascotasana.com/

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## INTERESTS & HOBBIES

Philosophy & Objectivism 📖
Acoustic & Electric Guitar 🎸
Latin-American Dancing 🎵
Ultramarathon Running 🏃
Mountain Climbing 🔺
Gym & Fitness 🏋
RTS Games 🎮

## REFERENCES

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**CTO Jan Pilarzeck**
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**Prof. Dr. Artur Andrzejak**
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## Red Cross Brigadist

**Venezuelan Red Cross**

📅 July 2013 – August 2016   📍 Caracas, Venezuela

Member of the Venezuelan Red Cross of Youth since age 14. My work mostly consisted in being a hospital clown, giving STD prevention talks, giving outdoor camping courses, assisting non-profit vaccination campaigns and collecting toys for poor children.

## Outdoor Camera Assistant

**Children on the Summit Project**

📅 October 2015 – November 2015   📍 Canaima, Venezuela

Participated as camera assistant for the filming crew of the third season of Children on the Summit during the Angel Falls expedition. My work including cleaning the filming equipment, mounting tripods and preparing scenes.

🌐 https://explorart.com/children-on-the-summit/

## 📄 Referenced Papers

[1]   • Dominik Lorenz et al. *Unsupervised Part-Based Disentangling of Object Shape and Appearance*. article. 2019. arXiv: 1903. 06946 `[cs.CV]`.

[2]   • Patrick Esser, Ekaterina Sutter, and Björn Ommer. "A Variational U-Net for Conditional Appearance and Shape Generation". In: (2018).