Diego Campanini

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Education

Bachelor of Science and Degree of Engineer in Electrical Engineering

Universidad de Chile, 6.7/7.0 *2011-2017*

- **Relevant Coursework:** Python Programming, Linear Algebra, Statistics, Multivariable Calculus, Artificial Intelligence, Image Processing.

Skills

Languages Native Spanish speaker, English advanced level.

Programming Python, SQL, Bash, Linux, Git, Numpy, Pandas, Scikit-learn, Tensorflow, Google Cloud Platform.

Experience

Senior Data Scientist *December 2020-Present*

Zenta Group

- **Automated MLOps pipelines** using **Cloud Scheduler, Cloud Function, Vertex AI, and Kubeflow**, everything on GCP, allowing the automatic update of ML models without the intervention of users.
- Trained machine learning models using **AutoML Tables** on GCP, reducing development time from days to hours.
- Developed a machine learning model for **customer segmentation using K-means**, allowing to divide 70,000 customers into 5 clusters, according to the buying frequency, recency, and amount of money expended.
- Developed machine learning models using **Vertex AI** on GCP to improve the reliability of cable broadband networks via electrical signal analysis, for an urban area with more than 10 million inhabitants.
- Designed and developed a **VoiceBot on Dialogflow** to schedule medical appointments, reducing the number of human-assisted calls by 50%
- Predict Visitor Purchases with a classification model in **BigQuery Machine Learning (BQML)**.

Junior Data Scientist *2020*

RMC Labs

- Created a dataset to train and update **machine learning models to detect people**, using Intel RealSense cameras, improving the model performance by more than 10%.
- Developed a **people detection system using Convolutional Neural Networks** to work on forklift trucks operating in mines to avoid fatalities.
- Trained models of detection based on Deep Learning, using multiple GPUs Nvidia, and Transfer Learning Toolkit, to deploy the models to work in a low-cost Nvidia's embedded systems.

Research Engineer *2017*

Advanced Mining Technology Center

- Researched line extraction and **obstacle detection algorithms** using a LIDAR 2D laser to fit lines to different objects within subterranean mines, setting a base to develop a system of obstacle detection for trucks.
- Developed a system of obstacle avoidance with memory for LHD loaders (load, haul, dump machine), allowing the trucks to recall the position of obstacles outside their view, so that they don't collide with the obstacles.

Research Intern, Laboratory of Computer Vision *2016*

Universidad de Chile, Department of Electrical Engineering

- Implemented a **system to detect human actions** (running, walking, reading, jumping, etc.) allowing a humanoid robot to recognize these actions, reaching a mAP of 85%
- The system was based on the paper R-CNNs for Pose Estimation and Action Detection (Gkioxari et al.). Georgia Gkioxari (Facebook AI Research) shared the complete architecture of the convolutional neural network.

Projects, Publications and Awards

Google Cloud Professional Machine Learning Certification (*credential.net/GoogleCloud*)

- In November 2022, I obtained the Google Cloud Professional Machine Learning Certification, which validates my skills to work on different assignments related to machine learning, such as designing, building, and deploying to production ML models using Google Cloud. It also proves the knowledge of different ML techniques and the understanding of training, retraining, deploying, scheduling, monitoring, and improvement of ML models.

Google Cloud Professional Data Engineer Certification (*credential.net/GoogleCloud*)

- In January 2022, I obtained the Google Cloud Professional Data Engineer Certification, which validates my skills to work in different assignments related to data, such as building ETL pipelines, monitoring data processing systems, writing SQL queries, and training machine learning models.

UChile Homebreakers 2017 Team Description (*robotica-uchile.amtc.cl*)

- Collaborated on the paper to participate in the competition **RoboCup @Home Japón 2017** with the University of Chile's robot named Bender.
- Developed systems of computer vision using deep learning for the robot Bender, improving its interaction with humans.