

Israfel Salazar

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EDUCATION

UNIVERSITY PARIS-SACLAY
MSc ELECTRICAL ENGINEERING,
MACHINE VISION AND AI
 Jun 2020 - Jun 2022

UNIVERSITY OF CHILE
MECHANICAL ENGINEER
(ENGINEERING DIPLOMA)
 Completed Jun 2018
 Cum. Grade: 6.2/7.0 (GPA 3.7)
 Years of studies: 6

COURSEWORK

Probability and Statistics
 Linear Algebra
 Optimization
 Algorithms and Data Structures
 Statistical Machine Learning
CS232N CNNs for Visual Recognition

- Stanford online course.
 Implemented and published all assignments in israfelsr/CS231n.

 Computer Vision
 Information Theory
 Image and Video Processing
 3D Data Analysis
 Reinforcement Learning

SKILLS

PROGRAMMING

Advanced:
 Python • Matlab • Pytorch • Pandas •
 Scikit-Learn • C++
Intermediate:
 Tensorflow • SQL • Java • HuggingFace
Familiar:
 THREE.js • R • ROS CSS/HTML • VHDL

MECHANICAL DESIGN

Advanced:
 Solid-Works • Inventor • Ansys
Intermediate:
 Catia • Comsol

LANGUAGE

Spanish: Native
 English: Fluent (C2)
 French: Excellent command (C1)
 German: Basics (A1)

OTHER HOBBIES

Running
 Swimming
 Playing the guitar
 Animal cognition and behaviour enthusiast

EXPERIENCE

STATIFY - INRIA | RESEARCH INTERN

April 2022 – Present | Grenoble, France

DEEP GENERATIVE MODELS FOR ESTIMATING GENOMIC OFFSET

- Implemented Conditional VAEs for generation of genomic data under environmental conditioning.
- Python implementation for inference of Gene-Environment association.

COASTAL - COPENHAGEN UNIVERSITY | RESEARCH INTERN

Oct 2021 – March 2022 | Copenhagen, Denmark

MULTI-TASK LEARNING (MTL) FOR HANDWRITTEN DATE RECOGNITION

- Implemented and evaluated MTL approaches for the OCR task.
- Implemented visual-to-text generation architectures.

EXCELERATE | SOFTWARE ENGINEER INTERN

Jul 2021 – Sept 2021 | Copenhagen, Denmark

UNIVERSITY COURSES SUMMARIZATION WITH NLP (GITHUB)

- Designed and implemented a pipeline that fetched descriptions of courses and summarized them, for helping students describe their professional experience.
- Designed the database and implemented the storage and retrieval interface.
- Integrated a pre-trained language model based on the transformers for summarization.

MUNDOS VIRTUALES | ROBOTICS ENGINEER

Apr 2018 – Nov 2019 | Santiago, Chile

- Designed, prototyped and manufactured robotics components and machines.
- Developed python scripts for robotic arms involving decision and integration.
- Researched and manufactured state-of-the-art soft robotics for handling objects.
- Fine-tuned a YOLO architecture to detect ripe fruits using self-made dataset.
- Simulated and modeled robotic arms using 3D environments to harvest the fruit.

WIEGERT UND BAHR | MECHANICAL ENGINEER INTERN

Jun 2017 – Sep 2017 | Renchen, Germany

- Calculated and designed the manufacturing process of mechanical hydraulic turbines.
- Analyzed failures in hydraulic power plants and designed solutions.

PROJECTS

VEHICLE RE-IDENTIFICATION USING DOMAIN ADAPTATION (GITHUB)

- Implemented an unsupervised learning algorithm based on optimal transport to jointly learn the distribution of different datasets.

ENGINEERING THESIS

Failure detection using Vibration Modes and CNNs (Thesis link)

- Created a physical model of the material using real sensory data and implemented a failure detection method based on vibration modes.
- Showed that CNNs trained for semantic segmentation can obtain comparable results.

KAGGLE COMPETITIONS: BRAIN MRIS AND CT LUNGS SCANS.

- Improved the classifier performance by implementing an MRI data preprocessing pipeline based on contrast enhancement, tissue isolation and orientation normalization.
- Implemented a multimodal model using CT images and patient tabular data.

ASSOCIATIONS IN THE UNIVERSITY OF CHILE

- Led teams to organise scientific events and faculty projects that involved coordinating around 100 people to host more than 15K visitors.
- Led organization of the university job fair, bringing together more than 60 enterprises and 4000 engineering students.

AWARDS

2020	Fellow	MIT Santander Scholarship: Leading Digital Transformation
2018	Honors	Graduated with the highest academic distinction
2015-2018	Honors	Dean's list
2011	Honors	High School Academic Excellence