

Juan-Pablo Silva Peña

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Education

Universidad de Chile

MASTER OF SCIENCE IN COMPUTER SCIENCE

COMPUTER SCIENCE ENGINEERING

BACHELOR OF ENGINEERING SCIENCE IN COMPUTING (GPA 6.1/7.0.)

Santiago, Chile

2019 - present

2014 - present

2014 - 2018

Conservatorio Nacional de la Música

CLASSICAL GUITAR INTERPRETATION

Santiago, Chile

2009 - 2012

- Intermediate level on musical interpretation.

Experience

WORK

Intelligent Software Construction Laboratory (ISCLab)

RESEARCH ASSISTANT

Santiago, Chile

2017 - present

- Research on applying machine learning to source code.

We Techs

DATA SCIENCE INTERN

Santiago, Chile

July 2018 - Dec 2018

- Was part of a team in charge of migrating the company's services from a relational schema to a ELK stack, then adding intelligence to the company's data. Specifically in charge of the Elasticsearch configuration and data analytics.
- Data processing and apply machine learning algorithms to improve company's control protocols.

Inria Chile

RESEARCH INTERN

Santiago, Chile

July 2017 - July 2017

- Compile a bibliography related to automatic consistent narrative generation, and adapt and implement several techniques of narrative generation to the context of an educational video game.
- Design of a proposal for the integration of auto generated ethical and moral conflicts, through related narratives, to the video game.

NIC Chile Research Labs

INTERN

Santiago, Chile

December 2016 - January 2017

- Install and configure HTC (High-throughput computing) software to automate tasks inside the laboratory.
- Evaluate the installed software on several environments inside the laboratory to quantify the positive impact of using it.

TEACHING

CC6204 - Deep Learning

TEACHING ASSISTANT

University of Chile, Chile

Spring 2019 - present (1 semester)

- Office hours to assist students with their course projects.
- Grading of homeworks.
- Evaluation of semestral projects.

CC5206 - Introduction to Data mining

TEACHING ASSISTANT

University of Chile, Chile

Spring 2019 - present (1 semester)

- Laboratory activity preparation.
- Grading and evaluation of semestral projects.

CC3002 - Design and Programming Methodologies

HEAD TEACHING ASSISTANT

University of Chile, Chile

Fall 2018 - present (4 semesters)

- Recitation classes (theoretical and practical) and design of homework material.
- Management of teaching aides for test, exam and homework grading.

CC5114 - Neural Networks and Genetic Programming

TEACHING ASSISTANT

University of Chile, Chile

Spring 2018, 2019 (2 semesters)

- Office hours to assist students with their course projects.
- Management of teaching aides for homework grading.

CC66M - Evolutionary algorithms

TEACHING ASSISTANT

- Homework design and grading.
- Assist students in the laboratory sessions.

University of Chile, Chile

Spring 2019 (1 semester)

CC3201 - Databases

TEACHING AIDE

- Grading of tests, practical activities and exam.

University of Chile, Chile

Fall 2019 (1 semester)

CC3002 - Design and Programming Methodologies

TEACHING AIDE

- Grading of tests, exam and homeworks.

University of Chile, Chile

Fall 2017 - Spring 2017 (2 semesters)

CC3301 - Systems Programming

TEACHING AIDE

- Grading of tests, exam and homeworks.

University of Chile, Chile

Fall 2017 (1 semester)

Publications

Pablo Barceló, Egor V. Kostylev, Mikael Monet, Jorge Pérez, Juan Reutter, and **Juan-Pablo Silva**. “The Logical Expressiveness of Graph Neural Networks”. In: *International Conference on Learning Representations (ICLR)*. 2020. URL: <https://openreview.net/forum?id=r1lZ7AEKvB>

Mikaël Monet, Jorge Pérez, Juan Reutter, Egor Kostylev, Pablo Barceló, and **Juan-Pablo Silva**. “Logical Expressiveness of Graph Neural Networks”. In: *International Conference on Neural Information Processing Systems (NeurIPS)*. *Graph Representation Learning Workshop*. 2019. URL: <https://grlearning.github.io/papers/92.pdf>

Other activities

SERVICE

SANER'2019

(IEEE International Conference on Software Analysis, Evolution, and Reengineering)

ERA Track

EXTERNAL REVIEWER

2018

- Reviewed one technical paper.

COMMITTEES

Academic Evaluation Committee, DCC University of Chile

Santiago, Chile

MEMBER OF THE COMMITTEE

2018 - present

- Approval and validation of course programs to be imparted on a department and faculty level. These programs are then used to accredit the degree.
- Discussion on techniques and protocols to be used on the wellness of the students, teaching aides and teaching assistants in the department.

WORKSHOPS

Artificial Intelligence Workshop - OpenBeauchef

Santiago, Chile

CO-INSTRUCTOR

May, Aug 2019 (2 times)

- Design of the practical and interactive activities.
- Theory on neural networks and introductory tensorial calculus.

Skills

LANGUAGE SKILLS

Spanish: Native **English:** Fluent **Japanese:** Fluent/Business (JLPT N2)

TECHNICAL

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|----------------|--------------------------------|-----------------------------------|-----------------------------|------------------------------|
| Languages: | Python: Fluent/Advanced | Java: Intermediate | Pandas: Intermediate | Pytorch: Intermediate |
| Data Packages: | Numpy: Intermediate | Scikit Learn: Intermediate | Git: Intermediate | Linux: Intermediate |
| Technologies: | Django: Intermediate | Flask: Beginner | | |

Awards

Outstanding Teaching Assistant, Department of Computer Science, FCFM, Universidad de Chile
Outstanding Student, FCFM, Universidad de Chile

2019
2016, 2017, 2018