

contact@dtsbourg.me +33 (0)7 69 19 98 75

US & French citizen

education

04/2019

09/2016 Master of Science & Engineering /speciality Robotics + extra credits in Computational Neuroscience, EPFL

09/2012 06/2016 Bachelor of Science & Engineering /speciality Microengineering, EPFL

06/2012

French Baccalaureate, Scientific specialization & advanced Maths summa cum laude

can speak...

fluent

English mother tongue French mother tongue

Spanish

publications

Learning Representations of Source Code from Structure and Context Bourgeois. Catasta, Leskovec pre-print

A dynamic embedding model of the media landscape

Rappaz*, Bourgeois*, Aberer WWW'19

GNNExplainer: Generating **Explanations for Graph Neural** Networks

Ying, Bourgeois, You, Zitnik, Leskovec pre-print

Selection Bias in News Coverage: Learning It, Fighting It

Bourgeois*, Rappaz*, Aberer WWW'18

Using holistic information in the Trigger

Bourgeois, Fitzpatrick, Stahl LHCb Pub

New approaches for track reconstruction in LHCb's Vertex Locator

Hasse, Albrecht, Couturier, Bourgeois, Coco, Nolte, Ponce JHEP'18

currently

MSc Thesis Graph Neural Networks - NLP - Representation Learning - Intepretability

@ SNAP, Stanford / LTS2, EPFL, Sept 2018-July 2019

Designing a new encoder which learns representations of source code from structure and context. The model can then be fine-tuned to achieve state-of-the-art results on common tasks like naming variables or methods. After a successful defense with honors, this work is currently being pursued for publication and extended, along with other collaborations within the lab.

did it experience

Intern Machine Learning - Large-scale Data Processing

@ LHCb Trigger Group, CERN, Feb-Aug 2018

The aim is to select interesting particle collisions in a processing-friendly and interpretable way, using only low-level detector information. We manage to drop the throughput by 84% on a 30MHz event rate, a gain tuneable based on signal efficiency requirements.

Semester Project Control - Kinematics - Robotics

@ RLI, IDIAP, Sept-Dec 2017

Exploring partial joint control on a humanoid robot. This project was finalized by an AR interface based on Tango to control the Baxter robot.

Semester Project Recommender Systems - News

@ LSIR, EPFL, Feb-Jun 2017

Identifying correlations in news coverage using Matrix Factorisation methods, usually used in recommender systems. Led to two publications at the WebConf and a funded news observatory project.

Intern Machine Learning - Robotics - Anomaly Detection

@ LASA, EPFL, Feb-Jun 2016

Designing predictive failure detection algorithms for multi-DOF robots. From sensor data, the algorithm predicts 93% of failures in simulated experiments.

Intern Control - Robotics - Odometry

@ IRI. UPC-Barcelona. Summer 2016

Extending a visual odometry framework to support inertial readings at a high frequency. This included verifying and implementing IMU preintegration on manifold methods.

Intern Control - Drone - Anomaly Detection

@ LIS, EPFL, Sept-Dec 2015

Implementation of a fast free-fall recovery algorithm for a quadcopter, allowing for emergency stabilization or throw recovery.

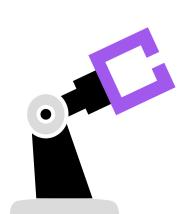
references...

Michele Catasta Stanford Postdoctoral Fellow pirroh@cs.stanford.edu

Jure Leskovec Stanford **Associate Professor** jure@cs.stanford.edu

Conor Fitzpatrick CERN Research Physicist conor.fitzpatrick@cern.ch

Pierre Vandergheynst EPFL **VP** Education pierre.vandergheynst@epfl.ch



can do programming

Main ••• Python Scholar ••• C(++) Working ••• Swift/Rust/JS

can do

Solidworks (CAD) Matlab Sketch • Gantt Project • ROS Final Cut Pro Premiere Pro Docker Sklearn PyTorch

and also...

Speaker Al+Journalism Workshop pilote.media, 2019

Speaker ML Workshop powercoders, 2018

Teaching Assistant

Applied Data Analysis, EPFL, 2017

Head of IT

Satellite, EPFL, 2016-2017

Stage + Music programmer Sat Rocks, EPFL, 2016

Contributor Signal for iOS Open Whisper Systems, 2014

Freshman Counselling EPFL. 2014

Student Assistant CS101 EPFL, 2013

and for fun...

Tennis Running Climbing Music curation • Film editing Traveling

