

US & French citizen 04/11/94

contact@dtsbourg.me social @dtsbourg website dtsbourg.me

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...

mother tongue mother tongue fluent

English French Spanish

publications

Learning Representations of Source Code from Structure & Context

Bourgeois, Catasta, Leskovec **TBA**

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

09/2018 MSc Thesis

Graph Neural Networks - NLP - Representation Learning - Intepretability 07/2019 @ SNAP, Stanford / LTS2, EPFL python - tensorflow - jupyter

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 with other collaborations within the lab.

experience

02/2018 Intern 08/2018

Machine Learning - Large-scale Data Processing @ LHCb Trigger Group, CERN python - pytorch - juypter The aim is to select interesting particle collisions in a processing-friendly and interpretable way, using only low-level detector information. Throughput dropped by 84% on a 30MHz event rate, a gain tuneable based on signal efficiency requirements.

09/2017 02/2018

Semester Project Control - Kinematics - Robotics @ RLI, IDIAP matlab - tango - java - python

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

Semester Project @ LSIR, EPFL 06/2017

Recommender Systems - News matlab - python

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.

02/2016 Intern

Machine Learning - Robotics - Anomaly Detection 06/2016 @ LASA, EPFL python - ROS

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

06/2016 Intern

09/2016 @ IRI, UPC-Barcelona

Control - Robotics - Odometry C++ - ROS - Kinect

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

09/2015 Intern 02/2016 @ LIS, EPFL Control - Drone - Anomaly Detection C++ - Matlab

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

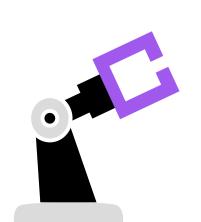
references

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

software

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

