



# João P C Bertoldo

26, Brazilian

One-page CV

[joaopcbertoldo.github.io](https://joaopcbertoldo.github.io)

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## CURRICULUM VITAE

### SUMMARY

#### Education

MSc. in artificial intelligence [a]

Double degree MSc. in engineering [b,d]

#### Work (others)

2 years of experience: Software Engineer [i], Data Scientist [h], and Teaching Assistant [n]

Experience in software development in Python and other technologies

#### Research

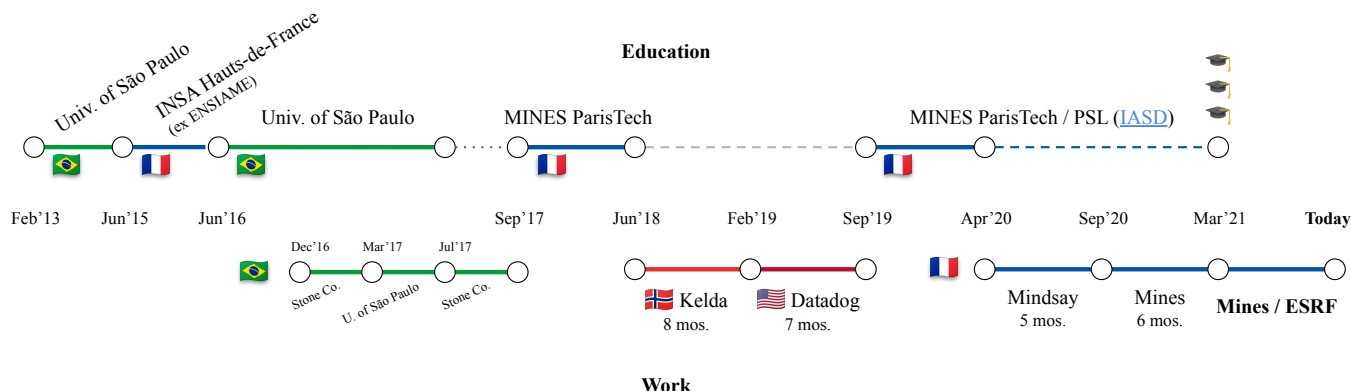
1 year of experience [f,g] in research

Currently working as research engineer [e].

#### Projects, Skills, etc

Using Python for several years in individual [o] and in-collaboration projects [p,q].

Lived in four countries – Brazil [d], France [a,b,e,g], Norway [i], USA [h], and speaks three languages.



### 1. EDUCATION

#### Paris-Dauphine – PSL University <sup>(a)</sup>

MSc. in Artificial Intelligence, Systems, Data (IASD) – double degree with [b]

Paris, France

2019 – 2020

Subjects: Machine Learning, Deep Learning, Optimization, Image Analysis

#### MINES ParisTech – PSL University <sup>(b)</sup>

MSc. in Executive Engineering – Minor: Data Science – double degree with [d]

Paris, France

2017 – 2020

Subjects: Software Engineering, Databases, Probability, Statistics, Operations Research

#### ENSIAME – INSA Hauts-de-France <sup>(c)</sup>

Mechatronics Engineering

Valenciennes, France

2015 – 2016

1-year scholarship for an international academic exchange programme

#### University of São Paulo (USP) <sup>(d)</sup>

Mechatronics Engineering

São Carlos, Brazil

2013 – 2015, 2016 – 2017

5-year degree at the best university in Latin America (U.S. News & World Report Best Colleges Ranking, 2020)

## 2. RESEARCH

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**The European Synchrotron Radiation Facility (ESRF)** <sup>(e)</sup> Grenoble, France  
**MINES ParisTech – PSL University** Paris, France  
Research Engineer since March 2021

*Working on a diffraction tomography (DCT) automated pipeline (preprocessing and image segmentation).*

→ [Link to my slides about this project.](#)

**MINES ParisTech – PSL University** <sup>(f)</sup> Paris, France  
Research Intern Sep. 2020 – Mar. 2021 (6 mos.)

*Worked on semantic segmentation with 2D and 3D U-Nets (see project tomo2seg [o]).*

*Presented results in two seminars [j,k], lectured in a week-long course [m], and wrote a paper [1].*

**Mindsay** <sup>(g)</sup> Paris, France  
Research Intern Apr. 2020 – Sep 2020 (5 mos.)

*Evaluated explainability methods with layperson-maintained Natural Language Processing (NLP) models.*

→ [Links: internship report, internship defense presentation](#)

## 3. WORK (OTHERS)

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**Datadog** <sup>(h)</sup> New York, USA  
Data Scientist Intern 2019 (7 mos.)

*Developed algorithms for time series and tag analysis [p], and contributed to the project Correlations [p].*

*Maintained high-impact production Python codebase and automated test pipeline.*

**Kelda Drilling Controls** <sup>(i)</sup> Porsgrunn, Norway  
Software Engineer Intern 2018 – 2019 (8 mos.)

*Contributed with new features to the project Bivrost [q].*

## 4. TALKS

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**44th edition of the Journée ISS France** <sup>(j)</sup> Online  
Deep learning for automated segmentation of tomographic images Feb. 2021

→ [Link to my slides](#)

**Seminar at the Center for Mathematical Morphology (CMM)** <sup>(k)</sup> Online  
**MINES ParisTech – PSL University** Jan. 2021

Fiber composite 3D segmentation with neural networks

→ [Link to my slides](#)

## 5. PUBLICATIONS

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- [1] J. P. C. Bertoldo, E. Decenci re, D. Ryckelynck, and H. Proudhon, “A modular U-Net for automated segmentation of X-ray tomography images in composite materials,” work in progress.

## 6. MENTORING

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**Yasser Ghellab, Research Intern** <sup>(l)</sup> Paris, France  
**MINES ParisTech – PSL University** March – April 2021 (2 mos.)

*Automation for X-ray tomography image segmentation*

## 7. TEACHING

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<b>Computer vision and machine learning for the material scientist (CVML2021)</b> <sup>(m)</sup>	Paris, France
Member of the teaching team	2021 (1 week)
<i>Lectured about convolutional neural networks applied to semantic segmentation of composite material tomography.</i>	
→ <a href="#">Link to my slides</a>	
<b>University of São Paulo (USP)</b> <sup>(n)</sup>	São Carlos, Brazil
Teaching assistant (part-time)	2015 (6 mos.)
<i>Elaborated and conducted workshops on numerical analysis using MATLAB.</i>	

## 8. PROJECTS

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<b>tomo2seg</b> <sup>(o)</sup>	since Sep. 2020 <a href="#">[f,e]</a>
Developed an X-ray tomography (XCT) semantic segmentation tool using 2D and 3D U-Nets.	
Applied it during an experiment at the <a href="#">Soleil Synchrotron</a> , France.	
<a href="#">Data</a> , <a href="#">models</a> , and a complementary <a href="#">tutorial (WIP)</a> are publicly available.	
→ <a href="#">Link to tomo2seg on GitHub</a>	
<b>Correlations</b> <sup>(p)</sup>	2019 (7 mos.) <a href="#">[h]</a>
Contributed to build <i>Correlations</i> : an automated debug tool for complex infrastructures capable of finding correlated accidents in time series.	
→ <a href="#">Link to Correlations on Datadog's website</a>	
<b>Bivrost</b> <sup>(q)</sup>	2018 – 2019 (8 mos.) <a href="#">[i]</a>
Maintained and implemented new features in <i>Bivrost</i> : a web application for high-resolution time series visualization used for drilling systems monitoring.	
Designed and implemented a time series annotation tool for supervised machine learning.	
→ <a href="#">Link to Bivrost's page on Kelda Drilling Controls's website</a>	
<b>Min'light: sunlight simulator</b> <sup>(r)</sup>	2017 – 2018 (9 mos.) <a href="#">[b]</a>
A robotic cable-controlled sunlight physical simulator.	
Led the project for 6 mos., and developed a 3D motion digital twin in Python.	
→ <a href="#">Link to minlight on GitHub</a>	

## 9. SKILLS

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### Languages

**English**      Fluent.

Obtained TOEFL 117/120 (2020). Worked in English-speaking companies (1 yr.) [\[h,i\]](#).

**French**      Fluent

Read subjects in French (3 yrs.) [\[a,b,c\]](#). Worked in French organizations (1 year) [\[e,f,g\]](#). Lectured in French [\[j,k,m\]](#).

**Portuguese**    Native

**Turkish**      Beginner

### Programming and computer skills

**Python**      Fluent

*Machine/Deep learning*    Keras/TensorFlow [\[o\]](#), Scikit-learn

*Data analysis*    Numpy, Scipy, Pandas, IPython, Matplotlib, Seaborn

**Other programming languages**    MATLAB [\[n\]](#), JavaScript [\[i\]](#), C/C++ (basics)

**Miscellaneous**    Git, Linux, Bash/Zsh, SSH, Weka, LaTeX, Zotero, PostgreSQL [\[b\]](#), MongoDB [\[i\]](#)

## 10. INTERESTS

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### Academic

#### Deep learning

Computer Vision, AI applied to the Sciences and Art, 3D X-ray tomography

Attention Is All You Need (Vaswani et al., 2017)

The Lottery Ticket Hypothesis (Frankle and Carbin, 2019)

**Newsletters**   [Papers with Code](#), [DeepAI](#), [The Variable](#), [The Batch](#) ([DeepLearning.AI](#))

**Miscellaneous**   [Papers without Code](#), [Towards Data Science](#), [Distill](#)

### Personal

**Travel & international environments**   Have been in 18 countries.

**Skydiving**   Member of a skydiving association ([ASPU](#))

#### Podcasts

(PT) [Cafe da manhã](#), [Foro de Teresina](#)

(EN) [Do you really know?](#), [Impact](#)

(FR) [Les couilles sur la table](#), [Maintenant vous savez](#), [Le moment Meurice](#), [Le monde devant soi](#)

**Channels**   [Two Minute Papers](#), [3Blue1Brown](#), [Vox](#), [The Economist](#), [Porta dos Fundos](#), [Choque de Cultura](#)