

# ARTHUR BAUVILLE

## Data scientist

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### SUMMARY

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Researcher with eleven years of experience in computational Earth Sciences looking to leverage skills in programming, machine learning and data analysis as a data scientist.

### SKILLS

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**Programming languages:** Python, C, MATLAB, Javascript, GLSL, SQL, command line, Git

**Libraries:** PyTorch, OpenCV, Pandas, scikit-learn, scipy, Numba

**Techniques:** supervised, unsupervised learning, data visualization, finite element, computer vision, neural networks, web scraping

### EXPERIENCE

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#### JAPAN AGENCY FOR MARINE-EARTH SCIENCES AND TECHNOLOGY – Yokohama, Japan

Researcher

Jul 2017 – Present

External researcher

Jan 2016 – Jul 2017

- [Field](#) and [simulation](#) data interpretation using theoretical mechanics models.
- Visualization, mining, feature engineering and analysis of TB structured simulation data.
- Developed a [multiphysics simulation code](#) (C, Python, OpenGL, OpenMP; >50,000 lines of code).
- Wrote 5 successful research funding projects (e.g. KAKENHI) since 2015 for a total of 22.2 M¥.
- Wrote or participated in [16 peer-reviewed articles](#) since 2013 with >200 cumulated citations.

#### UNIVERSITY OF MAINZ – Mainz, Germany

Post-doctoral researcher

Dec 2014 – Dec 2015

- Developed a [library](#) to design the geometry of numerical simulations based on data (MATLAB, SVG, Paraview). It was used to estimate stresses at a site planned for nuclear waste storage.
- Numerical simulations on super-computer (4096 cores), remote data analysis and visualization of >10TB data

#### UNIVERSITY OF LAUSANNE – Lausanne, Switzerland

Ph.D. student

Nov 2010 – Nov 2014

- Carried out studies on geomechanics using simulations and data (regression, dimensionality reduction).
- Performed technological watch, literature review.
- Taught finite-elements and machine learning (regression, PCA, clustering). BSc., MSc. level.

### PROJECTS

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#### [WAIDATATHON 2021](#), team leader, winner

- Generated personalized questionnaires using a decision tree to detect women at risk of domestic violence.
- Performed data cleaning, mining, and modeling (Python, matplotlib, plotly, sklearn, github).
- Compared to other competitors, we did not present the most technical project, but we defined an interesting problematics, used the relevant tools and presented the results clearly. Thus, we won the first place (1500\$).

### EDUCATION

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#### UNIVERSITY OF LAUSANNE – Lausanne, Switzerland

Nov 2014

PhD in Earth Sciences

#### UNIVERSITY OF GRENOBLE – Grenoble, France

Jun 2010

MSc. in Earth Sciences

### ADDITIONAL

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**Languages:** French, English, Japanese (~JLPT N4)

[Personal blog](#) with projects on deep learning, machine learning and data science.

**Certificate:** "Data scientist". Datacamp, 88 hours course. Data cleaning, exploration, (un)supervised learning.