

## Axel, Dinh Van Chi

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# Machine Learning Engineer

## Education

### M.Sc. in Computational Science and Engineering

EPFL - Swiss Federal Institute of Technology of Lausanne

Lausanne | 2020 - 2023

- Student assistant for the machine learning course in autumn 2021.
- Courses: Deep Learning, Machine Learning, Image Processing, Parallel and High-Performance Computing, Advanced Numerical Analysis, Software Engineering, Mathematical Foundations of Signal Processing.

### B.Sc. in Mathematics

EPFL - Swiss Federal Institute of Technology of Lausanne

Lausanne | 2015 - 2020

- Private teacher in mathematics and physics.

## Experience

### Restaurant Manager

Cusco 11

Lausanne | 2023

- Managed a team of 5 while serving and satisfying 60+ customers per lunch and dinner shift.

### Research Intern - Computational Imaging

Sony Europe B.V.

Stuttgart | 2022

- Developed and implemented an advanced interpolation technique for BRDF data, reducing acquisition time of material reflectance properties from 8 hours to just 5 minutes (90% improvement).
- Implemented BRDF interpolation using Python. Used C++ in Mitsuba 2 and Unreal Engine for rendering.

## Projects

### AI-Based Chatbot Mobile Application

Personal Project

2023 - Now

- Deep learning model interacting with the user using a library of movies' sentences.
- Backend developed using Flask and containerized using Docker. Application development using Flutter.

### Reinforcement Learning Library Implementation

Personal Project - [axeldinh.github.io/rl\\_learning](https://axeldinh.github.io/rl_learning)

2023

- Development of a reinforcement learning library for learning purposes.
- Technical Skills: Reinforcement Learning, Documentation, Python Packaging

### Master Project: Motion Correction in Cardiac MRIs

EPFL - Computer Vision Laboratory - [axeldinh.github.io/master\\_project](https://axeldinh.github.io/master_project)

Lausanne | 2022 - 2023

- Computer Vision: Deep Learning based extraction of Left Ventricles in MRIs.
- Improved the quality of MRI scans, avoiding redundant use of MRI scanners, which are both time-consuming and expensive.

### PDE Solving using Deep Learning

EPFL - Chair of Computational Mathematics and Simulation Science

Lausanne | 2021 - 2022

- Implementation of a Variational Physics-Informed Neural Network framework capable of handling imaginary numbers.
- Experiments on Helmholtz equation.

### Transfer Learning in Natural Language Processing

EPFL - Machine Learning and Optimization Laboratory - [axeldinh.github.io/bert-finetune](https://axeldinh.github.io/bert-finetune)

Lausanne | 2021

- Study of the finetuning of the Bert model while freezing 99.9% of its weights

## Skills

<b>Programming</b>	Python, PyTorch, Pandas, Scikit-Learn, OpenCV, C++, Matlab, Latex, Flutter, CUDA, Git, Hugging-Face, WandB, PyTorch-Lightning, Slurm
<b>Engineering</b>	Computer Vision, NLP, Statistics, Simulation of PDEs, Linear Algebra
<b>Soft Skills</b>	Teamwork, Documentation, Engaging Presentation

## Languages

French Native

English Fluent

Spanish Elementary

German Elementary