Dinh Van Chi Axel

Route du Bois 49b, Ecublens, Switzerland

+41 78 960 16 50 | axeldvc@gmail.com | April 24th, 1997 | axeldinh.github.io/ | github.com/axeldinh | linkedin.com/in/axel-dinh-van-chi/

As a recent graduate of EPFL's Computational Science and Engineering Master's program , I offer a strong foundation in mathematics, computer science, and engineering. My coursework and research projects have honed my expertise in areas such as deep learning, computer vision, and numerical simulations.

Education

EPFL, Swiss Federal Institute of Technology Lausanne *Lausanne, Switzerland*

M.Sc. in Computational Science and Engineering *Sep 2020 - Mar 2023*

- Student Assistant for the Machine Learning Course in Automn 2021.
- **Courses:** Deep Learning, Machine Learning, Applied Data Analysis, Image Processing 1, Advanced Numerical Analysis, Numerical Integration of Dynamical Systems, Parallel and High-Performance Computing, Software Engineering

EPFL, Swiss Federal Institute of Technology Lausanne *Lausanne, Switzerland*

B.Sc. in Mathematics *Sep 2015 - Sep 2020*

- Private Teacher in Mathematics and Physics.

Work Experience

Cusco 11, Restaurant *Lausanne, Switzerland*

Restaurant Manager *Mar 2023 - Apr 2023*

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

Sony Europe B.V. *Stuttgart, Germany*

Research Intern in Computational Imaging *Apr 2022 - Sep 2022*

- Developed and implemented an advanced interpolation technique for BRDF data, reducing acquisition time for isotropic material reflectance properties from 8 hours to just 5 minutes, enabling faster rendering workflows and improving productivity by over 90%.
- Implemented BRDF interpolation using Python and C++ in Mitsuba 2 and Unreal Engine for rendering.
- **Technical Skills:** PyTorch, NumPy, Matplotlib, Pandas, Scikit-learn, C++, OpenGL, Slurm, Ubuntu Linux, Linux tools, Apt, Scripting, Git.
- **Soft Skills:** Communication, Presentation skills.

Projects

Reinforcement Learning Library Implementation

Personal Project *Apr 2023 - Aug 2023*

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

Master Project: Motion Correction in Cardiac MRIs *Lausanne, Switzerland*

EPFL, Computer Vision Laboratory *Oct 2022 - Mar 2023*

- Deep Learning based extraction of Left Ventricles in MRIs.
- Using pure post-processing methods we improved the overall quality of the MRI scans, avoiding redundant use of MRI scanner, which are both time-consuming and expensive.
- **Technical Skills:** PyTorch, PyTorch Lightning, WandB, Slurm. **Soft Skills:** Presentation skills, Report writing.

PDE Solving using Deep Learning *Lausanne, Switzerland*

EPFL, Chair of Computational Mathematics and Simulation Science *Sep 2021 - Feb 2022*

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

Transfer-Learning in Natural Language Processing *Lausanne, Switzerland*

EPFL, Machine Learning and Optimization Laboratory *Mar 2021 - Jun 2021*

- Study of the finetuning of the Bert model while freezing 99.9% of its weights.
- **Technical Skills:** Natural Language Processing, Hugging Face.

Skills

Programming Python (Pandas, PyTorch, NumPy, Scikit-learn, Seaborn, etc...), CUDA, OpenMPI, Matlab, C++, LaTeX, Slurm, Git, Markdown.
Engineering Simulation of ODEs and PDEs, Linear Algebra and Matrix Theory, Computer Vision, Signal Processing, Statistics.
Soft Skills Teamwork, Problem-solving, Documentation, Engaging Presentation.

Languages

English Fluent (C2 Level)
French Native Speaker
Spanish Elementary
German Elementary