

Thibaut Durand

Researcher

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RESEARCH AREA

deep learning, weakly supervised learning, applying ML to real-world problems

ACADEMIC SERVICE

AREA CHAIR: CVPR 2023-2026,

ECCV 2023, NeurIPS 2024-2025

REVIEWER: CVPR, ICCV, ECCV, ICLR, NeurIPS, ICML

CONFERENCE ORGANIZATION: DEI Chair at CVPR 2023

OUTSTANDING REVIEWER: CVPR 2020 and ICCV 2023

PROGRAMMING

Primarily develop in Python on Linux, with additional C++ experience. Key libraries used include:

ML training/inference: PyTorch • pytorch-lightning • torchvision • timm • HF transformers • onnx • wandb • hydra

Data processing & visualisation: numpy • scipy • scikit-learn • pandas • polars • matplotlib • plotly • JupyterLab

Development: poetry • uv • pytest • ruff • black • pre-commit • docformatter

OPEN SOURCE

Personal projects are available on my GitHub profile. Selected projects:

➤ **coola** (8M+ downloads) Python library for comparing complex/nested objects.

➤ **objectory** (5M+ downloads) Python library for object factories.

➤ **karbonn** (400k+ downloads) Library of PyTorch modules and metrics

➤ **startorch** (400k+ downloads) Synthetic time-series generator in PyTorch

Made contributions to open source softwares like `pytorch`, `polars`, `pytorch-lightning`.

PERSONAL

Birth: 1989 in Poitiers (France)

Citizenship: French 🇫🇷 & Swiss 🇨🇭

Languages: Fluent in English 🇬🇧 & French 🇫🇷

Hobbies: basketball 🏀, volleyball 🏐, badminton 🏸, running 🏃, reading 📖

EDUCATION

SORBONNE UNIVERSITY | PH.D. IN COMPUTER SCIENCE

Sep 2013 – Dec 2017 | Paris, France

Thesis: *Weakly Supervised Learning for Visual Recognition*

Advisors: Matthieu Cord and Nicolas Thome

🏆 Received 2 best Ph.D. awards from AFRIF (2017) and DGA (2018)

CY CERGY PARIS UNIVERSITY | M.SC. IN IMAGE AND SIGNAL PROCESSING

Sep 2012 – Aug 2013 | Cergy, France

Thesis: *Semantic Pooling for Image Categorization using Multiple Kernel Learning*

Advisor: David Picard

ENSEA - NATIONAL SCHOOL OF ELECTRONICS AND ITS APPLICATIONS | DIPLOME D'INGÉNIEUR - ENGINEERING DEGREE

Sep 2010 – Aug 2013 | Cergy, France

Graduate School in Electrical Engineering, Computer Science, and Telecommunications. Specialization: Multimedia Systems

RESEARCH EXPERIENCE

RBC BOREALIS (BOREALIS AI) | MACHINE LEARNING RESEARCHER

Sep 2018 – Present | Vancouver, BC, Canada

Manager: Greg Mori

Develop ML-driven solutions to address challenges in finance and banking

Staff Machine Learning Researcher May 2024 – Present

- Lead a cross-functional team of 10 to enhance the client journey across multiple business lines and platforms
- Lead end-to-end ML projects, from scoping and stakeholder alignment to MVP development and model deployment

Senior Machine Learning Researcher

Aug 2020 – May 2024

- Developed explainable models using weakly supervised learning for credit capacity to improve risk management and credit adjudication
- Developed time series forecasting models tailored for capital market applications
- Led the development of the ATOM research roadmap and develop some models
- Developed models to learn user representations for intent prediction

Machine Learning Researcher

May 2019 – Aug 2020

- Built models for personalized recommendations and user representation learning
- Developed a training framework for on-prem ML development and production

Research Intern (part-time)

Sep 2018 – May 2019

- Develop ML models for asynchronous time series and user representation

SIMON FRASER UNIVERSITY | POSTDOCTORAL FELLOW IN COMPUTER VISION AND MACHINE LEARNING

Jan 2018 – May 2019 | Vancouver, BC, Canada

Advisor: Greg Mori

Research area: weakly supervised learning, learning with partial annotations, generative model (VAE), and asynchronous time series

PUBLICATIONS & PATENTS

3 granted patents and 10+ publications in top-tier computer vision and machine learning conferences and journals, including CVPR, ICCV, ICML, and TPAMI. Full list available on my Google Scholar profile.