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.