Valentin Charvet

PhD

Machine Learning Researcher

Sir Alwyn Williams Building
University of Glasgow - G12 8RZ
v.charvet.1@research.gla.ac.uk
https://github.com/vcharvet
@ValentinCharV
https://www.dcs.gla.ac.uk/~valentin/

Education

2019-Current — **University of Glasgow - School of Computing Science**

Worked within the *Inference, Dynamics and Interaction* group, under supervision of Roderick Murray-Smith and Sebastian Stein (and formerly Bjørn Sand Jensen)

PhD — **Dimensionless Bayesian Model-Based Reinforcement Learning**

Research Interests:

- Robustness in Model-Based Reinforcement Learning [2]
- Probabilistic Models and Approximate Inference [4]
- Physics-based models and equivariance

2015-2019 — **Télécom Paris - Université Paris-Saclay**

One of the top French Engineering schools

MSc — Majored in DataScience and Machine Learning

2013-2015 — **Lycée aux Lazaristes**

Two-year intensive foundation course for competitive entrance in French engineering schools. Majored in Mathematics and Physics, president of the student union for one year

Experience

09/22-04/23 — **Aegean Airlines and University of Glasgow**

Research Associate at UoG, 7 months internship

Took part in collaboration project between School of CS and Aegean Airlines. Developped prototype for tickets price elasticity based on probabilistic generative models

2020-2022 — **Machine Learning in Science - University of Glasgow**

Part of the Organization Comittee

ML in Science is a student-led organization that aims to bring together practitioners of ML in scientific research. We organised a series of colloquium as well as a conference in July 2022 `https://ml-in-science.github.io/webpage/`

Spring 2018 — **Intitut Gustave Roussy**

Machine Learning Research, 6 months internship

Institut Gustave Roussy is one of the world leading cancer research institutes for patient care, research and teaching

Initiated a research project in the Therapeutic Innovation and Early Drug Development Department (DITEP) to design a decision support tool for doctors in the context of oncology early clinical trials [1, 3]

Fall 2017 — **Claravista**

Machine Learning Engineer, 6 months internship

Claravista is a Paris-based high performance marketing firm

Implemented a LifeTime Value algorithm based on Random Forests and Markov Chains, integrated the API to Claravista back-end data analytics platform

Summer 2016 — **OLPC (NGO)**, volunteership

Teaching basic computer science in a remote village in Madagascar, technical maintenance of educational laptops and installation of a local intranet network

2016 - 2017 — **Student Bar**, Manager

Responsible of a team of 15 people and 100k€ annual budget as well community management

Publications

[1] Guillaume Beinse et al. "Prediction of Drug Approval After Phase I Clinical Trials in Oncology: RESOLVED2". In: *JCO Clinical Cancer Informatics* 3 (2019). PMID: 31539266, pp. 1–10. DOI: 10.1200/CCI.19.00023.

[2] Valentin Charvet, Bjørn Sand Jensen, and Roderick Murray-Smith. "Learning Robust Controllers Via Probabilistic Model-Based Policy Search". In: *Robust ML Workshop - ICLR 2021* abs/2110.13576 (2021).

[3] Valentin Charvet et al. "Natural Language Processing for Patient Selection in Phase I or II Oncology Clinical Trials". In: *JCO Clinical Cancer Informatics* 5 (2021). PMID: 34197179, pp. 709–718. DOI: 10.1200/CCI.21.00003.

[4] Anders Kirk Uhrenholt, Valentin Charvet, and Bjørn Sand Jensen. "Probabilistic selection of inducing points in sparse Gaussian processes". In: *Proceedings of the Thirty-Seventh Conference on Uncertainty in Artificial Intelligence*. Ed. by Cassio de Campos and Marloes H. Maathuis. Vol. 161. Proceedings of Machine Learning Research. PMLR, 2021, pp. 1035–1044.

Projects

Masters Project - Distributed Density-Based Clustering
Implementation of a density-based clustering algorithm with Apache Spark. The method implemented is inspired by OPTICS algorithm `https://github.com/vcharvet/density-based_clustering`
Supervised by Umut Simsekli

Masters Project - Scientific Paper Implementation
Implementation of the paper *Deep Reinforcement Learning from Human Preferences* (Christiano et al, 2017)
Code repo: `https://github.com/vcharvet/project-rl`

Machine Learning Challenges
Took part in three internal challenges: Acoustic Scene Classification, Face Recognition and Object Geolocation (code and report available at `https://github.com/vcharvet/geoloc-challenge`) using machine learning and numerical optimization

Languages

French (native) English (professional) Spanish (basic)

Hobbies

- Former member of several student societies: video, student union...
- Music: listening, playing with band, production on Ableton
- Collective sports, alpine skiing, road cycling