Thiébaut **Schirmer**

Astrophysicist and Data Scientist

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Professional Summary & Technical Skills

Data scientist and astrophysicist with over 8 years of experience, I have transitioned from academia to explore the data science world and tackle important projects that make a meaningful difference in people's daily lives. I have developed expertise in handling complex problems using techniques ranging from statistics to machine learning. I genuinely enjoy working in teams, am highly adaptable, and take pride in supervising and leading teams while organizing events. I am currently pursuing Azure certifications and mastering Docker to enhance my ability to deploy and manage data science projects. Since September 2025, I am actively seeking a data science position in Gothenburg while learning Swedish at Folkuniversitetet and bridging my academic knowledge to industry requirements. I am very interested in discovering new fields in data science and am always open to discussions so feel free to reach out!

- **Computer knowledge:** Python (NumPy, SciPy, Pandas, Matplotlib, Dash Plotly, json, yaml, Scikit-learn), GitHub, SQL, Railway, TensorFlow, Optuna, MLflow, Fortran, SQL, LaTeX
- **Strengths:** Team collaboration, student supervision, conference organization, workshop leadership, collaborative leadership, curiosity-driven, creative problem-solving, positive attitude, helpful mentorship

Experience

- **Postdoctoral Researcher, Data Scientist** - ***Chalmers University of Technology*** *August 2021 - August 2025*
  During this postdoctoral position, I was a key member of the collaboration "The Origin and Fate of Dust in the Universe," founded by the Knut and Alice Wallenberg Foundation, comprising astrophysicists and theoretical chemists. I developed Python-based pipelines available on GitHub to better understand astrophysical objects and worked on a machine learning project using random forests to increase computational efficiency. I was part of an international collaboration analyzing JWST results, supervised Gustav Olander's PhD with Professor Susanne Aalto, and served as chair of the local and scientific organizing committee of an international conference. I was also an active member of our department, organizing social events.

- **Postdoctoral Researcher, Data Scientist** - ***Institut d'Astrophysique Spatiale*** *October 2020 - July 2021*
  I continued my PhD work in this postdoctoral position, furthering my research on dust evolution and photon-dominated regions using advanced statistical and computational methods.

- **PhD Researcher, Data Scientist** - ***Institut d'Astrophysique Spatiale*** *October 2017 - October 2020*
  During this PhD, I contributed to the development of a radiative transfer code and created a code for exploring N-dimensional parameter spaces parallelized on the university's computing cluster. I developed visualization techniques to better understand astrophysical objects from large-scale simulation results. I was also actively involved in outreach activities at the Palais de la Découverte in the astrophysics department.

- **Research Assistant, Data Scientist** - ***Lund University*** *August 2016 - June 2017*
  During this 10-month internship, I developed a code coupling the à-trous wavelet transform method with Monte Carlo simulation to detect patterns in 3D datasets.

Key Projects & Achievements

- **JWST Early Release Science Program (PDRs4All)** *2017 - 2025*
  As an extended core member of this international collaboration for the James Webb Space Telescope Early Release Science Program on the Orion Bar with weekly meetings, I coordinate scientific papers, provide regular updates on the latest results, and develop Python-based pipelines for the astrophysics community. More information can be found on the project website at https://www.pdrs4all.org.

- **International Conference Leadership** *2023*
  I led a team of 10 persons to organize this international conference at Chalmers with more than 110 participants. I oversaw all logistics including venue organization, breaks, fika, social events, and budget management. I also chaired the scientific organizing committee where we selected invited speakers and approved contributed talks and posters. I created the following conference website: https://cosmic-dust-sweden.sciencesconf.org.
- **Triathlon Club Results Dashboard** *2025 - Present*
  I developed a Python-based pipeline with Dash Plotly to help visualize the results of competitions for my triathlon club, Triathlon Väst. It has been deployed on Railway for more than 100 members, and I am now working on using Docker instead and adding an LLM interface to interact with data. (GitHub repository and dashboard available privately on request for RGPD reasons)
- **SENECA — The Swedish Network for Early Career Astronomers** *2022 - Present*
  As a co-founding member with Bibiana Prinoth and Linn Boldt-Christmas, I have helped establish SENECA to link PhD and postdoctoral researchers in astrophysics across Sweden. We have organized online workshops presenting different astrophysical institutions in Sweden and invited successful postdocs to share their experiences in obtaining research grants. We also organized satellite events for PhD students and postdocs during Astronomdagarna in Gothenburg (2022) and Lund (2024). More information available at https://seneca-astro.github.io.
- **Kaggle Data Science Competitions** *August 2025 - Present*
  Competed in two Kaggle competitions focusing on deep learning and machine learning. Developed skills in PyTorch, scikit-learn, hyperparameter optimization (Optuna), feature engineering, and ensemble methods for classification and regression tasks.

Education

- **PhD in Astrophysics & Data Science** - ***Institut d'Astrophysique Spatiale, Université Paris-Saclay*** *2017 - 2020*
- **Master's in Astrophysics** - ***Observatoire de Paris*** *2015 - 2016*
- **Bachelor's and Master's in Fundamental Physics** - ***École Normale Supérieure Paris-Saclay*** *2013 - 2016*
- **Intensive Swedish Language Course** - ***Folkuniversitetet*** *September 2025 - October 2025*

Certifications

- **Machine Learning Specialization** - ***DeepLearning.AI & Coursera*** *July - October 2025*
  Completed 5 specialized courses: Advanced Learning Algorithms, Unsupervised Learning, Recommenders, Reinforcement Learning, and Supervised Machine Learning: Regression and Classification. Gained proficiency in Machine Learning, Scikit-Learn, TensorFlow, Random Forest, XGBoost, and Neural Networks.
- **Databricks Fundamentals** - ***Databricks Academy Accreditation*** *October 2025*
  Academy Accreditation demonstrating understanding of fundamental concepts related to the Databricks Data Intelligence Platform.
- **Microsoft Azure Data Scientist Path** - ***Microsoft Azure & Coursera*** *October 2025 - January 2026*
  Completed 2 courses: Create Machine Learning Models in Microsoft Azure, and Microsoft Azure Machine Learning for Data Scientists. Learned to create working environments for data science workloads on Azure, train and deploy predictive models using Azure Machine Learning.

Languages & Additional Information

Languages: French (Native), English (Fluent/C1), Swedish (B1).
Interests: Trail Running, Triathlon, Cooking, Baking, Nature, Literature.
References: Available upon request.