

Vasileios Gkolemis

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EDUCATION

LMU University

Research Visit at *IML* where we developed the *Effector* package

Main collaborators: Prof. *Giuseppe Casalicchio*, *Bernd Bischl*

Munich, Germany

Jan. 2025 – Mar. 2025

Harokopio University of Athens

PhD candidate in *Explainable Machine Learning (XAI)*

Supervisors: Prof. *Christos Diou*, *Eirini Ntoutsi*, *Theodore Dalamagas*

Athens, Greece

Mar. 2022 –

University of Edinburgh

MSc *Operational Research with Data Science* - with Distinction 78/100

Dissertation: *Robust Optimization Monte Carlo for Likelihood-Free Inference*

Supervisor: *Michael Gutmann*

Edinburgh, Scotland, UK

Sep. 2019 – Oct. 2020

University of the Basque Country

Erasmus in "*Escuela Universitaria de Ingenieria*"

Vitoria-Gasteiz, Spain

Jan. 2016 – Jun. 2016

Aristotle University of Thessaloniki

Diploma in *Electrical and Computer Engineering* - 7.56/10

Dissertation: *Stereoscopic vision using artificial neural networks*

Supervisor: *Anastasios Delopoulos*

Thessaloniki, Greece

Sep. 2011 – Oct. 2017

EXPERIENCE

Research Assistant at ATHENA Research and Innovation Center

Research Projects: *AIDAPT*, *XMANAI*

Athens, Greece

Nov. 2020 –

Research Assistant at Multimedia Understanding Group

Research Projects: *BigO*, *i-prognosis*

Thessaloniki, Greece

Jan. 2018 – Aug. 2019

PUBLICATIONS

Fast and Robust Simulation-Based Inference With Optimization Monte Carlo

1. *arXiv preprint*, Nov. 2025

Vasilis Gkolemis, *Christos Diou*, *Michael U. Gutmann*

Learning to Accelerate: Tuning Data Transfer Parameters

2. *AIDB Workshop @ VLDB*, Sep. 2025, London, UK

Benedikt Didrich, *Haralampos Gavrilidis*, *Vasilis Gkolemis*, and *Matthias Boehm*, *Volker Markl*

Effector: A Python package for regional explanations

arXiv preprint, Jul. 2025

3. *Vasilis Gkolemis*, *Christos Diou*, *Dimitris Kyriakopoulos*, *Konstantinos Tsopelas*, *Julia Herbringer*

Hubert Baniecki, *Dimitrios Rontogiannis*, *Loukas Kavouras*, *Maximilian Muschalik*

Theodore Dalamagas, *Eirini Ntoutsi*, *Bernd Bischl*, *Giuseppe Casalicchio*

Fast and Accurate Regional Effect Plots for Automated Tabular Data Analysis

4. *TaDA Workshop @ VLDB, Jul. 2024, Guangzhou, China*

Vasilis Gkolemis, Theodore Dalamagas, Eirini Ntoutsi, Christos Diou

An Extendable Python Implementation of Robust Optimisation Monte Carlo

5. *Journal of Statistical Software (JSS)*

Vasilis Gkolemis, Michael Gutmann, Henri Pesonen

RHALE: Robust and heterogeneity-aware accumulated local effects

6. *European Conference in AI (ECAI), Sep. 2023, Krakow, Poland*

Vasilis Gkolemis, Theodore Dalamagas, Eirini Ntoutsi, Christos Diou

Regionally Additive Models: Explainable-by-design models minimizing feature interactions

7. *European Conference in Machine Learning (ECML), Sep. 2023, Turin, Italy*

Vasilis Gkolemis, Anargiros Tzerefos, Theodore Dalamagas, Eirini Ntoutsi, Christos Diou

DALE: Differential Accumulated Local Effects for efficient and accurate global explanations

8. *Asian Conference in Machine Learning (ACML), Dec. 2022, Hyderabad, India*

Vasilis Gkolemis, Theodore Dalamagas, Christos Diou

SELECTED TALKS

Regionally Additive Models

LMU University - IML-XAI group (Nov. 2023)

Overview of Global Explainability Methods

"NoBIAS – Artificial Intelligence without Bias" monthly colloquium series (Mar. 2023)

Feature Effect Methods and DALE

FUB Studying Group (Mar. 2023)

TEACHING

Bayesian Analysis Course (BAC)

Organized the full course

Munich, Germany

Jun. 2025

Tutor at DeepMind's M2L Summer School

Organized the NLP tutorial

Thessaloniki, Greece

Aug. 2023

Teaching Assistant at the MSc program of Harokopio University

Courses: Artificial Intelligence and Internet of Things

Athens, Greece

Feb. 2023 – Jun. 2023

Thesis co-supervisor at Harokopio University

Topics include: Explainability, Medical Imaging

Athens, Greece

Sep. 2022 –

PROFESSIONAL SERVICE

Organizer - Program Committee

- **Workshop: Explainability meets uncertainty @ ECML-PKDD 2023** Sept. 2023 (organizer)

Reviewer - Workshops

- AISTATS, ECML, NeurIPS, etc.

Reviewer - Journals

- **Data Mining and Knowledge Discovery, AIJ, IJAIT**

KNOWLEDGE - TECHNICAL SKILLS

Background knowledge:

- **Machine Learning:** Bayesian Modeling, Likelihood-free Inference, Probabilistic Graphical Models, Gaussian Processes
- **Deep Learning:** Neural Networks, Transfer Learning, Generative Models, and Natural Language Processing
- **Optimization:** Gradient-based methods, Bayesian optimization

Machine Learning Packages:

- **Deep Learning** PyTorch, Tensorflow, Keras, JAX
- **Probabilistic Modeling** Pyro, GPyTorch, PyMC3, ELFI
- **Scientific Computing Libraries** Numpy, Scipy, Pandas, Matplotlib, openCV, Scikit-learn

FOREIGN LANGUAGES

- **English** Proficient User • C1 • **IELTS: 7.5/10 Band Score**
- **Spanish** Independent User • B2 • **Delle**
- **French** Basic User • A2 • **Delf**

ABOUT ME

I am usually at **ATHENA RC**, doing research on Explainable AI under the supervision of **Christos Diou**, **Theodore Dalamagas**, and **Eirini Ntoutsi**. I also collaborate on explainability research with colleagues in Munich, including **Giuseppe Casalicchio** and the entire **IML team** led by **Bernd Bischl**. I keep an ongoing interest in probabilistic ML, especially likelihood-free inference, where I often work with **Michael Gutmann**.

I actively contribute (and sometimes lead) open-source projects like **Effector** and **ELFI**, while I sometimes work on interpretability projects in industry, like LLM explainability **novelcore** (6-month project in 2023).

I have served as a reviewer for conferences like NeurIPS, AISTATS, ECML and journals like JAI.

I believe in **slow science**. The current pace burns people out and buries meaningful research under an avalanche of noise.