



Università  
Ca' Foscari  
Venezia

**Dipartimento  
di Economia**

VERA/ACADEMY

Rep. n. 1349/2023, prot n. 257322 del 15/11/2023

**10<sup>th</sup> EDITION - CALL FOR SELECTION OF N. 17 VERA INTERNSHIP  
GRANTS AT THE DEPARTMENT OF ECONOMICS - A.A 2023/2024,  
WITHIN THE PROJECT OF EXCELLENCE 2023-2027**

**Art. 1 – Scope**

1.1 The Department of Economics, within the new project of the Department of Excellence 2023-2027 – “Venice Initiative on Vulnerability Analysis”, offers to the students enrolled in its Master's Degree Courses the VERA Academy internship projects, to promote the development of professional and research skills useful for their orientation and subsequent labor market integration.

1.2 Seventeens grants are available. The maximum duration of the internship periods will be 4 months and a commitment of about 300 hours that will be agreed with the tutor of the project. The internships will take place between January and June 2024. The total funding for each internship will be € 1.843,31 (gross salary). Each internship project is described, with the indication of objectives, required knowledge and skills and tutor, in Annex A, which is an integral part of this call.

1.3 The internship will take place at the Department of Economics according to the Ca' Foscari internships guidelines.

1.4 Upon request of the student, the internship activity can be recognized as fulfilling the compulsory internship activity required by the Master's degree program to which the student is enrolled<sup>1</sup>.

**Art. 2 – Admission requirements**

2.1 The call is open to students regularly enrolled in the Master's Degree Courses offered by the Department of Economics.

2.2 If the student already receives a grant economically incompatible with the grant of the present call, they can apply and, if eligible, they can carry out the internship project conditional on renouncing the VERA ACADEMY grant.

2.3 The total numbers of internships cannot exceed 19 (maximum of 17 with grant and maximum of 2 without grant), therefore the acceptance of internship applications “without grant” is subject to the above limits.

2.4 The requirements must be met by the deadline indicated in the following art.3.

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<sup>1</sup> Students enrolled at Data Analytics for Business and Society are recommended to carry the aforementioned activity out as an extracurricular internship.

### **Art. 3 – Applications**

3.1 Applications must be submitted no later than **December 15<sup>th</sup>, 2023 at 12.00** by filling the online form at the page:

<https://apps.unive.it/domandeconcorso-en/accesso/2023-dec-veraacademy-02>

3.2 When filling the application in, candidates can indicate up to a maximum of three internship projects, in non-binding order of preference.

3.3 The application form must include the following documents:

- Dated and signed Curriculum vitae
- Duly signed self-certifications of enrollment with the indication of exams and relative grades at both bachelor and master level.
- Motivation letter (using exclusively the form attached to this call). In the motivation letter, the student must highlight the coherence between his academic background, in terms of acquired knowledge, skills and abilities, and the activities and objectives of each internship projects chosen (see Annex A).
- Scanned copy of a valid ID document.

3.4 Applications that are not accompanied by all the required documentation, applications which i) do not indicate the internship projects for which the candidate is applying, ii) indicate a number of internship project beyond the maximum allowed, iii) do not rank the internship projects indicated, and applications submitted after the deadline or through other procedures, will not be considered.

3.5 The University is not responsible for any failure to receive communications due to incorrect or incomplete indication of address by the applicant or to the lack of or the late communication of change of address, as well as possible postal failures not attributable to the fault of the administration itself.

### **Art. 4 – Commission and selection of applicants**

4.1 A commission composed by prof. Luca Di Corato, prof. Michele Costola and dr. Andrea Albarea will evaluate the candidates on the basis of their qualifications and motivation letters.

4.2 In a preliminary session, the Commission will define the evaluation criteria and the scoring rules for the professional and academic curriculum vitae and for the motivation letter, as well as the minimum threshold for grant eligibility.

4.3 The ranking list will be formulated on the basis of the following criteria:

- weighted average exam marks – GPA ;
- numbers of University credits (*CFU, Crediti Formativi Universitari*)<sup>2</sup>;
- evaluation of the Curriculum Vitae;
- evaluation of the motivation letter.

4.4 Applications from candidates that were beneficiaries of the VERA grant in the previous calls will be accepted but in the selection procedure priority will be given to candidates that never received the VERA grant.

4.3 The following applications will be excluded from evaluation:

- Applications which do not comply with the admission requirements of the announcement.
- Applications which do not comply with the instructions indicated in art.3.

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<sup>2</sup> In order to guarantee uniformity of treatment in the selection, for students enrolled in the Economics-QEM curriculum the 7 CFU exams will weigh, given the higher commitment in terms of frontal teaching, as 12 CFU.

## **Art. 5 –Ranking list**

5.1 At the end of the evaluation process, the Commission will provide a ranking list sorting the candidates by decreasing total score.

5.2 The ranking list, together with the projects assignments, will be published on the web site of the Department of Economics at the following web address [www.unive.it/vera](http://www.unive.it/vera), Vera Academy section, after January 8<sup>th</sup>, 2024.

## **Art. 6 - Assignment of grants**

6.1 At the end of the evaluation process, the Secretariat of the Department of Economics will notify the selected candidates, communicating the starting date of the internship grant.

6.2 The Winners will have to send their acceptance (via e-mail to the following address: [centro.vera@unive.it](mailto:centro.vera@unive.it)) within 5 days from notification. If a candidate turns down a grant, it will be assigned to the candidate ranked next.

6.3 Grants will be paid in one single instalment at the end of the internship after the submission of the final report approved by the academic tutor.

## **Art. 7 – Obligations for winners**

7.1 Winning students, with the support of the “company” and academic tutors, must, as a condition of the grant, agree to carry out the approved procedures to set up their internship, to prepare training projects and all the related administrative procedures.

## **Art 8 – Incompatibility**

8.1 The present grant can be received in conjunction with any other grants except in case of express incompatibility specified by applicable law, Regulations of the University and other specific calls in which the candidates participated (See Art. 2.2)

## **Art. 9 – Cross-reference**

9.1 For any relevant matters not mentioned in the call, reference is made to the current University Regulation for the assignment of grants, study awards and incentives to students to sustain enrollment for courses and other specific learning activities.

## **Art. 10 – Person in charge of the procedure**

10.1 The person in charge of the selection procedure, within Law n.241/1990, is the Secretary of the Department of Economics, Ing. Silvia Lovatti. For further information concerning the selection procedure, please send an e-mail to [centro.vera@unive.it](mailto:centro.vera@unive.it).

## **Art.11 – Processing and protection of personal data**

11.1. Personal data sent by the candidates with the application forms will be processed according to national and European legislation (Italian Legislative Decree n. 196/2003 and Regulation EU 2016/679). For further information see <https://www.unive.it/pag/36610/>.

Department Director  
Prof. Giacomo Pasini

Person in charge of the procedure  
Ing. Silvia Lovatti

## ANNEX A

Code	internship project	<b>Relevance and sensitivity analysis for the inputs of an Artificial Neural Network with financial applications</b>
1	<b>Activity details</b>	<p>Artificial Neural Networks (ANNs) are machine learning techniques capable of approximating, with a suitable degree of precision, the relationship that may exist between a set of input data and a set of output data. These applications serve various purposes, from fitting to prediction. A well-known drawback of ANNs is that the "knowledge" they extract from data is generally not easily interpretable. This implies that it is far from straightforward to understand the nature and extent of the relationships between input and output variables. In other words, ANNs are often considered as black-box models. Nevertheless, there are some proposals in the literature for assessing the importance of input variables in an ANN with regard to determining the output, and its sensitivity to these input variables. The aim of the scholarship is as follows: - To conduct a written review of the main aforementioned proposals found in the scientific literature; - To develop Matlab or Python code for implementing some of these proposals; - To apply these codes to simulated and real financial data; - To produce a concise final report regarding the developed codes and the results obtained from their application.</p>
	<b>Tutor</b>	Marco Corazza
	<b>Positions</b>	1
	<b>Requirements</b>	Possessing programming skills in Matlab and/or Python. Having successfully completed exams in mathematics, statistics, and quantitative finance. All else being equal, documented knowledge of machine learning techniques is considered a preferred qualification.
	<b>Starting date</b>	January 2024
	<b>Further information</b>	The activities carried out as part of this internship can be taken onto account for a degree thesis work

Code	internship project	<b>Implementing the Gender Equality Plan: building a programme against gender-based violence with specific regard to sexual harassment</b>
2	<b>Activity details</b>	<p>The intern will assist and carry out research for the implementation of the Gender Equality Plan, with specific regard to the creation of a programme to counter gender-based violence at the university open to the entire community. The intern's activities will be planned upon agreement with his/her tutors and will mainly regard the following themes: Sexual violence; Sexual harassment, also at the workplace; Forced marriages; Cyber violence and harassment; Domestic violence.</p> <p>The purpose is to conduct research on the topics relevant for the call, to prepare and distribute a web survey on the perception of sexism, stereotypes related to gender identity, and sexual harassment addressed to the students of the Department of Economics. The assessment and analysis are oriented to a potential extension of the research to the entire university in the future. The programme has the ambition of contributing to the realisation of a programme on countering gender-based violence along with the Sustainability Office and the CUG. The project is located within the work on inclusion and gender equality of the Department of Economics.</p>
	<b>Tutor</b>	Sara De Vido, Michele Marzulli
	<b>Positions</b>	1
	<b>Requirements</b>	Strong interest for and studies in gender and women's rights; interest in combining research and law in practice; very good communication skills in Italian and English; good digital skills for research and preparing written documents, slides and spread sheets (Microsoft Office Word, Power Point, Excel, etc.); basic experience in research at academic level.
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

Code	internship project	<b>Bayesian Neural Networks and their applications to forecasting</b>
3	<b>Activity details</b>	Processing large datasets and structured data requires ML methods such as Neural Networks. Bayesian methods have been used to account for uncertainty in NN. The aims of the research are the following: to provide a review of Bayesian Neural Network (BNN); to use BNN in forecasting financial and economic time series; to develop the code for the analysis; to apply the model and methods for forecasting financial volatility; to write a final report where methods and results are presented and discussed. Keywords: Inference methods, Bayesian Learning, Neural Networks, Artificial Intelligence, Machine Learning
	<b>Tutor</b>	Roberto Casarin
	<b>Positions</b>	1
	<b>Requirements</b>	programming skills in R, statistical data analysis; alternatively, experience in MATLAB or Python may be considered; high grade pass statistics and mathematics exams ; pass in econometrics and numerical methods for economics and finance is preferred
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

Code	internship project	<b>How do policies shape socioeconomic and health conditions of individuals along the life-cycle?</b>
4	<b>Activity details</b>	The research project aims at analysing how socioeconomic conditions (employment, family composition, income) and health conditions of individuals along the life-cycle are affected by the policies implemented in the country of residence, placing particular attention to their evolution over time. The analysis will focus on Europe and will be based on the Gender and Generation Survey (GGS). The research assistant will provide support with respect to a systematic literature review and the development of the empirical analysis by using the STATA software. Preliminary knowledge, at least basic, of this software is particularly recommended. The research conducted within the project might be used as basis for the Master thesis under the tutors' supervision.
	<b>Tutor</b>	Ylenia Brilli, Danilo Cavapozzi
	<b>Positions</b>	1
	<b>Requirements</b>	(i) Basic knowledge of STATA software; (ii) good knowledge of the English language
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

Code	internship project	<b>Ensembles of random regression trees.</b>
5	<b>Activity details</b>	Modelling multivariate data in the economic and financial domain has captured considerable attention in the economic and financial literature of the latest years. The aim of this project is to develop non-parametric regression models based on ensembles of random trees, possibly within a Bayesian framework. The research assistants are required to build an up to date literature review, and possibly build a data-base providing some data analysis.
	<b>Tutor</b>	Roberto Casarin, Stefano Tonellato
	<b>Positions</b>	1
	<b>Requirements</b>	programming skills in R, statistical data analysis; alternatively, experience in MATLAB or Python may be considered; high grade pass statistics and mathematics exams ; pass in econometrics and numerical methods for economics and finance is preferred
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

Code	internship project	ESG and Pension funds
6	<b>Activity details</b>	Pension funds are increasingly subject to extensive environmental, social, and governance (ESG) requirements. The recent regulations mandate the integration of climate risks and opportunities into the governance, investment strategy, and risk management processes of occupational pension schemes. New regulations are driven, on one side, by the fact that, given the typically long investment horizon of pension funds, ESG risks are more likely to materialize over time, and unsustainable practices can negatively impact financial returns for companies with poor ESG risk management. On the other side, the legal framework is evolving rapidly, driven by a combination of policymaking, scientific guidance, and societal expectations. Institutional investors, responsible for individuals' supplementary retirement benefits, are expected to deploy capital to promote ESG objectives. While climate considerations remain pivotal in the ESG investment landscape for asset owners, there is a clear trend towards broader environmental concerns such as biodiversity, sustainable food and agriculture, as well as issues like a just transition, human rights, living wages, diversity, inequality, and tax fairness. In this project, we will review the patterns of adoption of relevant ESG laws and regulations by the pension fund industry globally, and the resulting challenges and opportunities. While we will explore current developments worldwide, the final goal will be to evaluate the response to the ESG new criteria of leading Italian pension schemes.
	<b>Tutor</b>	Antonella Basso e Giulia Iori
	<b>Positions</b>	1
	<b>Requirements</b>	A good familiarity with a programming language, e.g. R, Matlab, Python or C, is required.
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

Code	internship project	Dynamic portfolio management using machine learning techniques
7	<b>Activity details</b>	Reinforcement Learning (RL) is a machine learning technique used to address dynamic optimization problems when the context is not precisely known, where sequential decisions must be made to achieve a predetermined objective. Dynamic portfolio management is one such dynamic optimization problem. The objectives of this study are as follows: - Create a written review of the main RL models for dynamic portfolio management and their applications as presented in the scientific literature; - Develop codes in Matlab or Python for the implementation of some of these models; - Apply these codes to real financial market data; - Prepare a concise final report regarding the developed code and the results obtained from their application. It is worth noting that models and applications explicitly considering frictional aspects such as costs and taxation will be preferred.
	<b>Tutor</b>	Marco Corazza
	<b>Positions</b>	2
	<b>Requirements</b>	Possessing programming skills in Matlab and/or Python. Having successfully completed exams in mathematics, statistics, and quantitative finance. All else being equal, documented knowledge of machine learning techniques is considered a preferred qualification.
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

Code	internship project	Absolute poverty: perspective on measuring the phenomenon
8	<b>Activity details</b>	The main goal of the internship is the study of methodologies for measuring the absolute poverty phenomenon. This involves, on one hand, a deepening of some defining aspects (concepts of poverty, welfare measurement, reference budget, etc.), and on the other hand, an exploration of proposed methodologies for measuring absolute poverty, with particular reference to the most recent multidimensional approaches. These approaches consider both the usual expenditure data and other well-being components of a nature different from the economic one. The internship activities include the following steps: Review of literature on methodologies for measuring poverty; Analysis of recent proposals for revising the ISTAT methodology; Comparative analysis with alternative proposals for measuring poverty; Compilation of a report.
	<b>Tutor</b>	Claudio Pizzi
	<b>Positions</b>	1
	<b>Requirements</b>	Skill on R and/or Python
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

Code	internship project	Likelihood free methods for inference on complex models with application to networks data
9	<b>Activity details</b>	Complex models often have intractable likelihoods, so methods that involve evaluation of the likelihood function are infeasible. The aims of the research are: to provide a review of the likelihood free methods (e.g., ABC or synthetic likelihood) used in fitting complex models large dataset; to use likelihood free methods to make inference on complex models such as random networks models; to develop the code for the analysis; to apply the model and methods for networks data from economics and finance such as trade, financial flows networks, financial contagion networks; to write a final report where methods and results are presented and discussed. Keywords: Inference methods, Large Networks Data, Complex models, Big data
	<b>Tutor</b>	Roberto Casarin
	<b>Positions</b>	1
	<b>Requirements</b>	programming skills in R, statistical data analysis; alternatively, experience in MATLAB or Python may be considered; high grade pass statistics and mathematics exams ; pass in econometrics and numerical methods for economics and finance is preferred
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

Code	internship project	Macroeconomic networks
10	<b>Activity details</b>	The project aims to analyze macroeconomic models based on networks where each individual represents a node in the network and acts according to rational criteria to maximize their utility. Each individual behaves like a neoclassical household, connected to other individuals with whom they interact through income or capital flows. The dynamics of the resulting network will depend on the structure of connections and the behavior of the individual households that compose it. This study delves into the aggregation dynamics of individuals beyond the assumption of a representative agent. The candidate will have the opportunity to conduct literature research, examine the theoretical aspects of the model, perform computer-based experiments through simulations, and analyze the data generated by the experiments. Knowledge of neoclassical macroeconomic models (Solow, Ramsey) and proficiency in programming (Matlab, R, or other software) are recommended.
	<b>Tutor</b>	Andrea Teglio



<b>Positions</b>	1
<b>Requirements</b>	Knowledge of neoclassical macroeconomic models (Solow, Ramsey) and proficiency in programming (Matlab, R, or other software) are recommended. The successful completion of an advanced macroeconomics exam is a preferred qualification.
<b>Starting date</b>	January 2024
<b>Further information</b>	

Code	internship project	Macroeconomic networks
11	<b>Activity details</b>	The research aims to map the productive skills of the territories through the guided application of economic complexity models. The work consists of assistance in the analysis of the structure and production evolution at a sub-national level (regional, provincial, local labor system). The hypothesis is that the productive complexity of territories is a condition for increasing resilience to exogenous shocks and enhancing productivity growth in the long-run.
	<b>Tutor</b>	Andrea Teglio
	<b>Positions</b>	1
	<b>Requirements</b>	Knowledge of neoclassical macroeconomic models (Solow, Ramsey) and proficiency in programming (Matlab, R, or other software) are recommended. The successful completion of an advanced macroeconomics exam is a preferred qualification.
	<b>Starting date</b>	January 2024
	<b>Further information</b>	0

Code	internship project	Matching algorithms for Synthetic Control methods
12	<b>Activity details</b>	The Synthetic Control Method (SCM) casually estimate the effect of a “treatment” on a certain unit for a certain outcome of interest. The SCM applies a matching algorithm that follows an iterative, two-step optimisation process. The two-stage optimisation procedure uses the outcome, and a group of selected covariate variables for the treated and potential control units, to select, for each treated unit, the best weighting of covariates and the best weighting of units from the pool of potential controls to create a synthetic control. A recent paper by Banal-Estanol et al. ( 2023) applies this approach to assess if the UK Performance-Based reserach funding system has enhanced the productivity of UK Universities. In this project we aim to test the robustness of this analysis to alternative matching algorithms. In particular we will explore the application of the LASSO methods and Data envelopment analysis (DEA) methods (Basso et al (2018)) to enhance the matching of UK universities to controls units. REFERENCES : Antonella Basso, Stefania Funari Introducing Weights Restrictions in Data Envelopment Analysis Models for Mutual Funds in MATHEMATICS, vol. 16, pp. 1-24 (ISSN 2227-7390). Banal-Estanol A.; Jofre-Bonet M.; Iori G.; Maynou L.; Tumminello M.; Vassallo P. Performance-based research funding: Evidence from the largest natural experiment worldwide in RESEARCH POLICY, vol. 52, pp. 104780 (ISSN 0048-7333)
	<b>Tutor</b>	Antonella Basso e Giulia Iori
	<b>Positions</b>	1
	<b>Requirements</b>	A good familiarity with a programming language, e.g. R, Matlab, Python or C, is required.
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

Code	internship project	Modeling Flood Risk
13	<b>Activity details</b>	In theory, insurance holds the potential to play a crucial role in managing flood risk by distributing disaster risks across domestic and international insurance and capital markets. Beyond its fundamental risk-sharing function, there is a growing acknowledgment of the significant social role insurance can play in coping with the risk of disasters. However, the insurability of flood risk poses specific challenges, hindering the availability of affordable private insurance coverage for this peril in many countries. This has resulted in substantial increases in premiums for customers, low levels of insurance penetration, and considerable variation in penetration levels across countries. One major challenge lies in the technical difficulty of assessing exposure, the probability of occurrence, and potential losses due to flooding. Additionally, flood risk is influenced not only by the hazard itself but also by the population's ability to cope with flood events. In the face of a changing society and climate, insurers can no longer rely solely on historical claims experience to predict risk. The goal of this project is to review existing approaches to quantifying and modeling flood risks and to identify potential future directions for more effective risk assessment and risk-sharing arrangements. This involves exploring innovative methods such as Agent-Based Models, which simulate the dynamic evolution of flood risk and vulnerability by linking behavioral and physical models. It also includes leveraging AI-driven data approaches to quantify hazards, impacts, and risks induced by climate change, along with exploring proposals for peer-to-peer (P2P) alternatives for risk sharing. The specific focus of this project will be on insurance providers in Italy, a key player as one of the largest agricultural producers in the European Union with a distinct agricultural insurance market.
	<b>Tutor</b>	Antonella Basso e Giulia Iori
	<b>Positions</b>	1
	<b>Requirements</b>	A good familiarity with a programming language, e.g. R, Matlab, Python or C, is required.
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

Code	internship project	pattern recognition in technical analysis: an Artificial Intelligence based approach
14	<b>Activity details</b>	The main goal of the internship is the study and the application of pattern recognition techniques to financial time series in order to identify some graphic configurations known in the literature and widely used by practitioners. The definition of appropriate templates allows us to identify some graphic heuristics in the time series and allow us to build a library of configurations among which to search for the most suitable. The internship activity is organized into the following phases: 1. Review of literature on technical analysis and AI applied to pattern recognition problem; 2. Design of an AI-based pattern recognition system to identify the most plausible graphic configuration; 3. Implementation of the previous point using R or Python software. The internship requires the preparation of the R or python code of the proposed algorithms and the drafting of a final document containing an empirical analysis
	<b>Tutor</b>	Claudio Pizzi
	<b>Positions</b>	1
	<b>Requirements</b>	skill on R and/or Python; basic knowledge on technical analysis
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

<b>Code</b>	<b>internship project</b>	<b>Innovative profiles of financial advice</b>
<b>15</b>	<b>Activity details</b>	The candidate will deepen one or more profiles of interest in the field of financial advice. Modern financial advice is divided into different dimensions, financial, legal, quantitative, insurance. The candidate will be able to deepen the study by choosing to focus attention on the dimension that interests him most, with particular regard to the most innovative aspects of the subject, connected with the evolution of markets and financial instruments
	<b>Tutor</b>	Antonella Basso , Alberto Urbani
	<b>Positions</b>	5
	<b>Requirements</b>	Reserved to students enrolled at Economia e Finanza or Economics, Finance and Sustainability. Basic knowled of both Italian and English Language
	<b>Starting date</b>	January 2024
	<b>Further information</b>	Funded by Assoreti

<b>Code</b>	<b>internship project</b>	<b>Review of the literature on the analysis of environmental policy under a real-options approach</b>
<b>16</b>	<b>Activity details</b>	The researcher will be asked to carry out a review of the economic literature on the analysis of environmental policy under a real-options approach. This approach allows considering how irreversibility, uncertainty regarding future benefits and costs and flexibility in the decision-making process generate benefits and costs associated with the postponement of immediate action. The final research output will be a report that presents with an adequate level of synthesis the state of the art of the literature above and discusses the main results obtained.
	<b>Tutor</b>	Luca Di Corato
	<b>Positions</b>	1
	<b>Requirements</b>	The following background is essential: i) solid preparation, in Microeconomics (in particular in Environmental Economics and in Economics of Risk and Uncertainty), Mathematics and Statistics, ii) excellent knowledge of the English language (in particular with regard to reading and comprehension) and iii) synthesis and aptitude toward critical analysis.
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

<b>Code</b>	<b>internship project</b>	<b>ESG risks and the creditworthiness of SMEs</b>
<b>17</b>	<b>Activity details</b>	The integration of Environmental, Social and Governance (ESG) factors into credit risk assessment of small and medium-sized enterprises (SMEs) is becoming increasingly important as policymakers require banks to channel loans to sustainable enterprises. The aim of the project is to construct a dataset of key determinants of ESG performance moving from a collection of sustainability reports of European SMEs that will be provided.
	<b>Tutor</b>	Diana Barro, Marco Corazza
	<b>Positions</b>	2
	<b>Requirements</b>	Programming skills in R, matlab. Having passed mathematics, statistics and econometrics exams. Finance and sustainability exams are preferred.
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

<b>Code</b>	<b>internship project</b>	<b>Score-Driven (Multivariate) Models for Realized Volatility</b>
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<b>18</b>	<b>Activity details</b>	<p>The aim of the project is to expand the literature on score-driven models for realized volatility (SDRV) towards either more applied work in financial econometrics on realised volatility series of different asset class or towards the theoretical development of a multivariate framework.</p> <p>The aims of the research are the following: to review the literature on non-linear models for Realized Volatility (RV), univariate or multivariate; to develop the code for univariate or multivariate SDRV models, potentially in the format of an executable package; to source and process time series of RV for several asset classes; to use SDRV models for forecasting RV series; to write a final report where methods and results are presented and discussed.</p>
	<b>Tutor</b>	Dario Palumbo
	<b>Positions</b>	3
	<b>Requirements</b>	Possessing programming skills in Matlab and/or Python. Having successfully completed exams in mathematics, statistics, and quantitative finance. All else being equal, documented knowledge of machine learning techniques is considered a preferred qualification.
	<b>Starting date</b>	January 2024
	<b>Further information</b>	<p>Further information: Harvey, A.C. and, Palumbo, D. "Score-driven models for realized volatility", Journal of Econometrics, Volume 237, Issue 2, Part B, 2023, <a href="https://doi.org/10.1016/j.jeconom.2023.01.029">https://doi.org/10.1016/j.jeconom.2023.01.029</a>. Creal, D., Koopman, S.J. and Lucas, A. (2013), GENERALIZED AUTOREGRESSIVE SCORE MODELS WITH APPLICATIONS. J. Appl. Econ., 28: 777-795. <a href="https://doi.org/10.1002/jae.1279">https://doi.org/10.1002/jae.1279</a>. Ole E. Barndorff-Nielsen, Neil Shephard, Econometric Analysis of Realized Volatility and its Use in Estimating Stochastic Volatility Models, Journal of the Royal Statistical Society Series B: Statistical Methodology, Volume 64, Issue 2, May 2002, Pages 253–280, <a href="https://doi.org/10.1111/1467-9868.00336">https://doi.org/10.1111/1467-9868.00336</a>. Jospin, Laurent Valentin, et al. "Hands-on Bayesian neural networks—A tutorial for deep learning users." IEEE Computational Intelligence Magazine 17.2 (2022): 29-48. Link: <a href="https://ieeexplore.ieee.org/document/9756596">https://ieeexplore.ieee.org/document/9756596</a></p>

<b>Code</b>	<b>internship project</b>	<b>Psychosocial stress and leave taking at child birth</b>
<b>19</b>	<b>Activity details</b>	A child birth may be induce stress due to the risk of role overload induced by the necessity of combining work and family responsibilities. The aim is to use paneldatta from the SHARE survey to estimate the causaleffect of chldbirth and leave taking on stress of mothers. The task of the RA will be to update and improve the already existing STATA code, and review of the recent literature about materinity leave and health outcomes for mothers
	<b>Tutor</b>	Giacomo Pasini e Agar Brugiavini
	<b>Positions</b>	1
	<b>Requirements</b>	Knoledge of STATA coding language
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

<b>Code</b>	<b>internship project</b>	<b>Job type, careers and health</b>
<b>20</b>	<b>Activity details</b>	We aim to study the effect of job chaaracteristics on health and career outcomes, with a focus on gender differences. We will exploit a rich panel dataset from the SHARE survey. The RA will run a first set of descriptive analyis in Stata, and will replicate a few related papers.
	<b>Tutor</b>	Giacomo Pasini e Agar Brugiavini
	<b>Positions</b>	1
	<b>Requirements</b>	Knoledge of STATA coding language
	<b>Starting date</b>	January 2024
	<b>Further information</b>	

<b>Code</b>	<b>internship project</b>	<b>Economic and integrated evaluation of wetland ecosystem services</b>
<b>21</b>	<b>Activity details</b>	The intern will be involved in a European project called WaterLANDS which aims to conserve and protect wetlands in Europe. More information about the project can be found here: <a href="https://waterlands.eu/">https://waterlands.eu/</a> . The student will support the Multi-Criteria Participatory Analysis and Cost-Benefit valuation of relevant ecosystem services at the Action Sites. In particular: 1) Support in writing documents aimed at organizing workshops with stakeholders, 2) Collect data for economic evaluation 3) Perform quantitative analyzes to calculate the results and 4) Report the results.
	<b>Tutor</b>	Carlo Giupponi
	<b>Positions</b>	1
	<b>Requirements</b>	Data analysis, being familiar with programming languages such as R or Python, having good foundations in economics.
	<b>Starting date</b>	January 2024
	<b>Further information</b>	