CESARE VILLIGER

APPLICATION FOR INTERNSHIP AT ...

PERSONAL

Mühlebachstrasse 66
8008 Zürich

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/cesare-villiger

LANGUAGES

DE German
Native

EN English
Fully Proficient

FR French
Intermediate

IT Italian
Elementary

REFERENCES

Research and Teaching Assistant

Prof. Dr. Alexander Wagner
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Plattenstrasse 14
8032 Zürich

Johanna Braun
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Plattenstrasse 14
8032 Zürich

PROFILE

"Enthusiastic, motivated and ambitious. Always willing to learn new things and broaden my horizon.
I am very resilient and meticulous when it comes to problem solving and deepening what has been learnt."

WORK EXPERIENCE

Sep. 2020 - now

Research And Teaching Assistant - UZH (~30%)

- Responsible Headcoach for the course "Corporate Finance" with over 400 students and MAS participants. This includes: hosting exercise sessions, preparing the course material, learning videos and final exam, and administrative supervision.
- Co-creation and lecturing in the courses "Climate Change Finance" and "eFundamentals of Programming".
- Data gathering and visualisation for various professors at the Institute of Banking & Finance.

Dez. 2017 - April 2018

Teaching Assistant - Sekundarschulhaus Neumünster, Zurich (~30%)

- Teaching assistant for secondary school in Zurich. Responsible for teaching and preparations of teaching materials for all lessons, including informatics, mathematics, and languages (German, English, French).

Aug. 2016 - Sep. 2020

Tutor - Boost the Support (~50%)

- Tutoring students ranging from grammar school preparation to university level in mathematics, German and French.

TECHNICAL

MS Office
Fully Proficient

Python
Advanced

R
Advanced

Matlab
Experienced

Latex
Experienced

Tableau
Experienced

SQL
Intermediate

HTML
Elementary

Git/GitHub
Elementary

FURTHER KNOWLEDGE

Datastream

Data gathering on the financial time series database.

Datacamp

Successfully completed various online courses on data cleaning/ manipulation in Python/R and Python for finance and algorithmic trading.

EDUCATION

Feb. 2022 - Feb. 2024

Master in Economics and Data Science (UZH)

- Major in Economics and minor in Data Science at the University of Zurich (UZH) . Preliminary grade: 5.7.
- Strong focus on quantitative and empirical methods, predominantly time series analysis and deep learning. Keen interest in the intersection of data science and economics and the applications of machine learning therein.

Sept. 2022 - Feb. 2024

Special Student: Master in Data Science (ETH)

- 24/30 ECTS of electives courses expected to be completed at ETH, covering multivariate statistics, statistical regression and applied time series analysis.
- Achievements in course on modern statistical inference and its applications to finance honoured with highest grade and letter of recommendation by Prof. Marc Paolella (Member of Steering Committee MSc Quantitative Finance UZH/ETH).

Sep. 2018 - Feb. 2022

Bachelor in Economics and Informatics (UZH)

- Major in Economics and minor in Informatics at the University of Zurich (UZH). Final Grade: 5.1 (magna cum laude).
- Bachelor Thesis: Estimation of influence of railway construction on Swiss GDP using extended generalised method of moments framework.

Mar. 2017 - Aug. 2017

International Baccalaureate Diploma Programme

- Bilingual Diploma, fully completed in English at the Literargymnasium Zurich, with focus on mathematics and Latin.

Mar. 2017 - Aug. 2017

Swiss Matura

- Completed at the Literargymnasium Zurich.
- Focus on Latin, English and Music.

EXTRACURRICULAR ACTIVITIES

Music

- I have been playing piano for 18 years, completing all level tests at the Zurich Conservatory Music School and the Swiss Music Matura.
- My greatest hobby is performing live as a keyboarder/pianist, having played more than 100 concerts over the past years with three different bands.

Physics/Mathematics

- First place at the Swiss Young Physicist's Tournament (2015).
- ETH Zurich Math Youth Academy (advanced class).

Sports

- I used to be a competitive rower.
- I won a multitude of medals and even one Swiss Championship.

PROJECTS

All PDFs are publicly available on my website: https://c-villiger.gitub.io.

Statistical Finance

Three separate semester report focused on the modelling of different distribution used in empirical finance and the estimation of parameters therein.

- The third report applies the multi-myriad filter (MMF) algorithm, an improvement on the classical expectation maximisation (EM) algorithm, in order to find the parameters of a multivariate t distribution. The results are compared to those of the MLE and other variants of the EM algorithm in terms of accuracy and computation time.
- The second report focuses on the non-central t distribution, comparing the coverage accuracies of confidence intervals for the expected shortfall (ES) based on parametric and non-parametric bootstrap.
- The first report explores the stable Paretian distribution and sums thereof, visualising the differences between the theoretical ES and the empirical ES based on simulations.

Bachelor Thesis

Estimation of influence of railway construction on Swiss GDP using extended generalised method of moments framework.

- Absract: This paper examines the influence of railway construction on economic growth in Switzerland in the second half of the 19th century. The data refers to 191 districts of Switzerland over a period of five decades. In the estimation of a dynamic panel model, an endogeneity problem between the error terms and the lagged dependent variable arises (Nickell, 1981). This problem can be solved by a generalised method of moments estimator (GMM), which uses lags of the regressors as instruments. This paper uses a system GMM estimator according to Blundell and Bond (1998), which yields a significantly negative estimator for the aggregate effect across all districts. The disaggregated effect for the largest districts is, however, significantly positive. This suggests that certain districts have used railway construction to their advantage and were able to maintain this advantage over the entire period under consideration.