

PEDRO VALLOCCI

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RESEARCH INTERESTS

Finance, Innovation, Productivity

EDUCATION

Ph.D. in Economics (M.A. awarded in 2020)

University of California, Santa Cruz

Intercampus Exchange student at UC Berkeley and UCLA (2020/2021)

Expected 2024

Santa Cruz, CA

M.Sc. in Electrical Engineering

University of Kaiserslautern

2011

Kaiserslautern, Germany

B.Sc. in Electrical Engineering

University of Brasilia

2007

Brasilia, Brazil

RESEARCH PAPERS

- **Measuring Knowledge Capital Risk (JMP):** I propose a methodology to identify firms that are vulnerable to knowledge capital-related risks, relying on a textual analysis of the risk factors disclosed in their annual reports. Further, the paper quantifies these risks through an examination of firms concurrent return patterns.
- **Intangible Capital and Hiring Dynamics:** We combine a proprietary dataset from Dice.com and Compustat to examine the dynamics of how vacancy postings are influenced by firms intangible capital. We find out that firms with a higher intangibility are less inclined to disclose wage information, suggesting increased bargaining power for workers. (Co-authored with Brenda Samaniego de la Parra)

OTHER RESEARCH EXPERIENCE

Macro Research Intern @ SPX Capital Management LLC

New York, NY (Jun/23 - Aug/23)

- Developed a MIDAS mixed-frequency nowcasting model of US Consumption (PCE) using macroeconomic and news data (WSJ topic loadings, found by LDA). Performed variable selection with Random Forest and sparse-group LASSO, integrating dynamic factors. Outperformed SPF. Joint work with Quant team.
- Integrated FRED API to retrieve vintage data for 100+ US macroeconomic variables

Graduate Student Researcher @ UCSC

Santa Cruz, CA (Jul/20)

- Classified firms' operational scope as local or nationwide using NLP techniques on website content and a test set. Identified key websites for 50k firms via Python and Google Search API; scraped content with BeautifulSoup; processed text using NLTK; classified using Random Forest and SVM. Joint work with Brenda Samaniego de la Parra.

PROFESSIONAL EXPERIENCE

Advisor @ Central Bank of Brazil (BCB)

Brasilia, Brazil (Jun/14 -)

- Led the design and implementation of an innovative object-oriented inflation forecasting framework in MATLAB, resulting in a significant improvement in forecasting accuracy, timeliness, and productivity
- Increased the output of forecasting scenarios to Brazilian MPC by at least 15 times, through the development and utilization of efficient and modular algorithms and streamlined workflows

- Taught 20-hour course in Object-Oriented Programming in MATLAB at BCB's Corporate University.
- Contributed to team effort in adapting Bayesian estimation and Kalman filtering for BCB's DSGE model: Assisted in transitioning from Dynare to Julia, significantly enhancing its computational performance

Electronic Systems Engineer @ Knorr-Bremse AG

Munich, Germany (May/11 - Apr/13)

- Developed, documented, and tested on-site brake software for Stuttgart's Light-Rail trains (Stadtbahn)
- Verified and documented brake software for 5+ cities' underground train systems

TEACHING EXPERIENCE

Instructor of Record: Principles of Macroeconomics: Su2022; upcoming: Python Lab (graduate level): Sp2024

Graduate Teaching Assistant (at UCSC):

- Finance 1 (graduate level): F2023
- Machine Learning for Economists: W2023
- Money and Banking: W2021
- International Trade: Sp2021
- Personal Finance: Su2021
- Intermediate Macroeconomics: W2022, F2022, W2024
- Intermediate Microeconomics: W2020, Su2020
- Principles of Macroeconomics: Sp2022, Sp2023
- Principles of Microeconomics: F2020

FURTHER TRAINING

US Monetary Policy Implementation

New York Fed, 2018

Advanced Monetary Economics

Gerzensee (Switzerland), 2017

Monetary Policy: Institutional and Strategic Aspects

Bundesbank, 2016

Macroeconomic Management and Debt Issues

IMF, 2014

Monetary and Exchange Rate Policy

IMF, 2014

AWARDS

Excellence in Teaching Award

UCSC, 2023

Miguel Velez Fellowship

UCSC, 2021

Regent's Fellowship

UCSC, 2019

University Scholarship

University of Kaiserslautern, 2008

Goethe-Institut Language Scholarship

Goethe Institut, 2005

REFeree SERVICES

Review of World Economics

SKILLS

Technical: R, Python, MATLAB, C++, Julia, STATA, SQL; Natural Language Processing, Machine Learning

Languages: Portuguese (native), English, German, Spanish (fluent); Italian and French (conversational)

CITIZENSHIP

Brazil, Italy

REFERENCES

Galina Hale (main advisor)
Professor
UC Santa Cruz
Department of Economics
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Grace Weishi Gu
Associate Professor
UC Santa Cruz
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