Petar Jolakoski

Date of birth: 12/07/1996 |

Nationality: Macedonian/citizen of the Republic of North Macedonia | **Email address:**

jolakoskip@manu.edu.mk | **Email address:** petar.jolak@gmail.com | **Website:**

https://scholar.google.com/citations?user=CWn3tBgAAAAJ&hl=en | **Website:**

https://www.researchgate.net/profile/Petar_Jolakoski

● EDUCATION AND TRAINING

01/02/2023 – CURRENT Skopje, North Macedonia
PHD STUDENT IN COMPUTER SCIENCE AND ENGINEERING Faculty of Computer Science and Engineering

- Scientific and research ethics
- Methodology of scientific research in computer sciences and engineering
- Introduction to dynamic systems and control
- Analysis and evolution of complex networks
- Advanced topics in data science
- Theory of stochastic processes

Website https://www.finki.ukim.mk/en

01/10/2019 – 19/01/2021 Skopje, North Macedonia
MSC IN ECONOMICS (STATISTICAL METHODS) Faculty of Economics - Skopje

- Theoretical econometrics;
- Multivariate analysis;
- Mathematical statistics;
- Time series analysis
- Research methods;
- Advanced econometrics;
- Financial econometrics.

Website https://eccf.ukim.edu.mk/en/home-default/ |

Thesis Thesis: Socio-economic determinants of the Covid-19 pandemic: A Bayesian approach

14/09/2015 – 30/06/2019 Skopje, North Macedonia
BACHELOR OF ECONOMICS (ACCOUNTING AND AUDITING) University of "Ss. Cyril and Methodius",
Faculty of Economics

Website http://www.eccf.ukim.edu.mk/

01/09/2019 – 04/08/2020 Skopje, North Macedonia
DATA SCIENCE ACADEMY Brainster

Advanced Excel, SQL, Data Warehousing, Statistics for Machine Learning, Calculus, Linear Algebra, Microsoft Power BI, Data Mining, Python, Machine Learning, Big Data.

Website https://brainster.co

30/06/2018 – 21/07/2018 Milan, Italy
COURSE CREDITS Bocconi University

Certificate for participation and successful completion of the exam in the Bocconi Summer School 2018
Name of the course: Equity and Venture Capital Financing
Subject group: Economics of Financial Intermediaries

Address Via Roberto Sarfatti, 25, Milan, Italy | **Website** https://www.unibocconi.eu

31/08/2011 – 09/06/2015 Ohrid, North Macedonia
DIPLOMA OF SECONDARY SCHOOL EDUCATION (DIPLOMA ZA POLOZENA DRZAVNA MATURA) "Sv. Kliment Ohridski" Municipal Seconadary Education School

General:
Economics, Mathematics, Statistics, Accounting, English Language, German Language, Business Fundamentals.

WORK EXPERIENCE

🏛 **MACEDONIAN ACADEMY OF SCIENCES AND ARTS** – SKOPJE, NORTH MACEDONIA
Department Research Center for Computer Science and Information Technologies ∣ **Email** jolakoskip@manu.edu.mk

JUNIOR RESEARCH ASSOCIATE – 30/11/2021 – CURRENT

Conducting research and writing research project manuscripts in:
- **Mathematical sciences**: Stochastic Processes;
- **Physics**: Statistical Physics, Nonlinear Dynamics;
- **Finance**: Option pricing;
- **Economics**: Economic inequality and mobility;

🏛 **BRAINSTER NEXT COLLEGE** – SKOPJE, NORTH MACEDONIA
LECTURER – 01/08/2022 – 28/02/2025

Lectures, exercises and lab (~10 hours per week) in the winter semester for the following subjects:

- Linear algebra
- Probability and statistics

🏛 **BRAINSTER** – SKOPJE, NORTH MACEDONIA
ASSISTANT LECTURER – 31/08/2020 – 01/08/2023

Lecture and workshops (10 hours per week) in the following areas:
- Linear algebra;
- Single variable calculus;
- Multivariable calculus;
- Descriptive statistics;
- Intro to probability and probability distributions;
- Parameter estimation (MLE and Bayesian).

🏛 **ZMAI** – SKOPJE, NORTH MACEDONIA
RESEARCH ASSISTANT – 31/12/2018 – 01/04/2022

- Professional experience in data analysis;
- Conducting research and writing research project manuscripts;
- Most recent research: The short-term effect of the coronavirus pandemic on income distribution in the Republic of Northern Macedonia.

🏛 **FACULTY OF ECONOMICS - SKOPJE** – SKOPJE, NORTH MACEDONIA
UNDERGRADUATE TEACHING ASSISTANT – 31/08/2019 – 14/01/2021

Conducting exercises in introductory classes in Mathematics and Statistics on a weekly basis. The classes include:

- **Mathematics**: Sequences, Limits, Linear Algebra, Calculus, Long-Term Financial Operations;
- **Statistics**: Descriptive analysis, Random variables and probability distributions, Samples, Inference, Hypothesis testing, ANOVA, Chi-square test, Simple linear regression and correlation, Multiple linear regression and correlation, Indices, Time series analysis;
- **Introductory Econometrics and Financial Econometrics**: Mathematical and statistical foundations for Econometrics, Linear regression model (review), Univariate time series modelling and forecasting, Multivariate models, Long-run relationships in finance, Stochastic modelling of volatility and correlation;
- **Statistical quality control**: Basic analysis of control charts for numerical variables and attributes, basic process capability analysis.

🏛 **JOLAK DOO** – OHRID, NORTH MACEDONIA

ACCOUNTANT ANALYST – 31/05/2016 – 31/08/2016

- evaluating financial statements;
- ensuring that the financial statements are in compliance with IFRS.

PUBLICATIONS

2023
Jolakoski, P., Pal, A., Sandev, T., Kocarev, L., Metzler, R. and Stojkoski, V., 2023. A first passage under resetting approach to income dynamics. Chaos, Solitons & Fractals, 175, p.113921.

Chaos, Solitons & Fractals

2021
Stojkoski, V., Jolakoski, P., Pal, A., Sandev, T., Kocarev, L. and Metzler, R., 2022. Income inequality and mobility in geometric Brownian motion with stochastic resetting: theoretical results and empirical evidence of non-ergodicity. Philosophical Transactions of the Royal Society A, 380(2224), p.20210157.

Philosophical Transactions of the Royal Society A

2023
Trajanovski, P., Jolakoski, P., Zelenkovski, K., Iomin, A., Kocarev, L. and Sandev, T., 2023. Ornstein-Uhlenbeck process and generalizations: Particle dynamics under comb constraints and stochastic resetting. Physical Review E, 107(5), p.054129.

Physical Review E

2023
Trajanovski, P., Jolakoski, P., Kocarev, L. and Sandev, T., 2023. Ornstein–Uhlenbeck Process on Three-Dimensional Comb under Stochastic Resetting. Mathematics, 11(16), p.3576.

Mathematics

2022
Stojkoski, V., Utkovski, Z., Jolakoski, P., Tevdovski, D. and Kocarev, L., 2022. Correlates of the country differences in the infection and mortality rates during the first wave of the COVID-19 pandemic: evidence from Bayesian model averaging. Scientific reports, 12(1), pp.1-11.

2022
Tevdovski, D., Jolakoski, P. and Stojkoski, V., 2022. The impact of state capacity on the cross-country variations in COVID-19 vaccination rates. International Journal of Health Economics and Management, 22(3), pp.237-255.

International Journal of Health Economics and Management, pp.1-19.

2021
Stojkoski, V., Jolakoski, P. and Ivanovski, I., 2021. The short-run impact of COVID-19 on the activity in the insurance industry in the Republic of North Macedonia. Risk Management and Insurance Review, 24(3), pp.221-242.

Risk Management and Insurance Review

2022
Tevdovski, D., Madjoska, J., Jolakoski, P., Jovanovic, B. and Stojkoski, V., 2022. Firm profits and government activity: An empirical investigation. Croatian Economic Survey, 24(1), pp.43-82.

Croatian Economic Survey

2023

Disoska, E.M., Toshevska-Trpchevska, K., Tevdovski, D., Jolakoski, P. and Stojkoski, V., 2023. A Pooled Overview of the European National Innovation Systems Through the Lenses of the Community Innovation Survey. Journal of the Knowledge Economy, pp.1-25.

Journal of the Knowledge Economy

2022

Tevdovski, D., Jolakoski, P. and Stojkoski, V., 2022. Determinants of budget deficits: The effects of the COVID-19 crisis. Economic Annals, 67(232), pp.105-126.

Economic Annals

SKILLS

Python for Scientific Computing | MATLABSimulink | R for statistics | Microsoft Office | Machine Learning and Deep Learning frameworks Tensorflow Keras PyTorch | Wolfram Mathematica (Basic)

JOB-RELATED SKILLS

Job-related skills

- problem solving skills (team-related and technical-related);
- computer skills (statistical data analysis and programming in Python, R and MATLAB);

LANGUAGE SKILLS

Mother tongue(s):   **MACEDONIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
ITALIAN	A1	A1	A1	A1	A1
GERMAN	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

HONOURS AND AWARDS

Honours and awards

Honorable mentions: I was recognized as one of the best students for 2016/17 and 2017/18 with GPA 10.00/10.00 for the relevant student years.

Honours and awards

Second place at the International Mathematics Competition KENGUR held on March 20, 2014

CERTIFICATIONS

Certifications

Certificate of Achievement: Together with my Team, I was recognized as a winner and one of the best individuals in a business case competition, part of EY Program for Development of Young Potentials 2018, organized in cooperation with the Faculty of Economics and Faculty of Law at the University of Ss. Cyril and Methodius in Skopje.

Certifications

CFA Institute Research Challenge hosted by CFA Slovenia

The CFA Institute Research Challenge is a global competition which tests the analytic, valuation, reportwriting, and presentation skills of university students. In this competition, I worked with a team of students to prepare a comprehensive sell-side initiating coverage report on Sava Re Group. Our team then took our findings before a panel of experts from financial institutions in Switzerland, Slovenia, Croatia and defended our recommendation. We achieved a second place in the Local Finals organized by CFA Society Slovenia.

ORGANISATIONAL SKILLS

Organisational skills

- team leadership;
- creating and keeping deadlines;
- delegation;
- conflict resolution in a team;