

PERSONAL INFORMATION

Endri Raco


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Date of birth 28 January 1981 | Nationality Albanian

WORK EXPERIENCE

Jan 2023 – Present

Associated Professor/Head of Statistics Research Group(full-time)

Polytechnic University of Tirane, Tirana, Albania

June 2022 – Present

ICT Specialist/Key Expert(part-time)

FCG Swedish Development AB (Pristina, Kosovo)

- IT project management: As the project's IT focal point for the Programme Implementation Unit, masterminding project deliverables for the Project IT Component; coordinating resources, team engagement and translating each element into core tasks i.e drafting ToR and identifying profiles of short-term experts in Component 3 to execute assignments.

Dec 2022 – Jan 2023

Short-term Expert (part-time)

Swiss Agency for Development and Cooperation (SDC), Tirana, Albania

- Contributed to the production of the annual SDG publication by Albanian Institute of Statistics, producing visually appealing charts and graphics using my expertise in R's visualization packages.

Jan 2011 – Jan 2023

Senior Lecturer(full-time)

Polytechnic University of Tirane, Tirana, Albania

- Subject matter expert: Delivering comprehensive, engaging undergraduate/graduate level teaching in the following disciplines: Data Science & Machine Learning; Statistical Programming in R, Python; Probability and Statistics
- Teaching programmes: Project managing the design, content research and delivery of Data Science teaching courses, integrating core data science fundamentals and expanding course content to support related data science disciplines.

Jan 2022 – Dec 2022

Researcher/Independent consultant (part-time)

International Organization for Migration, Tirana, Albania

Member of research team conducting international study Predictive Modelling: Migration Impact on the Albanian Workforce and Skills Development Needs, from a gender perspective, in Albania

Jun 2022 – Sep 2022

Researcher / Independent Consultant (part-time)

UNDP, Tirana, Albania

Support Continuous Unemployed Learning (SCUL) project: Working in a research team integrating national ICT framework insights to develop a digital literacy curriculum, drafting and validating methodology to support adults with low-literacy level. Part of this role is to develop roll out strategies and a scale-up strategy for similar learning platforms across Albania, integrating localised data analysis/market insights to establish bespoke sub-projects.

- March 2020 – May 2022 **Statistician / Independent Consultant (part-time)**
UNICEF, Tirana, Albania
- Data and Statistics on the Rights and Protection of Children project: Collating, validating, and analysing data acquired from a wide range of resources, translating key insights into tangible information for publication into reports and presentations.
 - Covid19 Emergency Working Group Shiny Dashboard: Establishing a data-driven dashboard through comprehensive data management to deliver a programme strategy in response to the global pandemic.
 - One Click Away Shiny Dashboard: Launched a data-driven thought dashboard to support a programme strategy to identify problems associated with children's use of the internet; managed the end-to-end project from data research, collation, processing and interpretation
- Nov 2021 – Dec 2021 **Statistician / Independent Consultant (part-time)**
Sweden's Government Agency For Development Cooperation, Tirana, Albania
- R training: Trained employees from the Albanian Institute of Statistics to manage data editing and data tabulation using R language across a range of tasks, including sampling part of Labor Market Survey, Vital Statistics, System of Agricultural Prices Survey.
- Nov 2019 – Dec 2019 **Statistician / Independent Consultant (part-time)**
OSCE, Tirana, Albania
- Justice Without Delays project: Crafted the nation-wide courts statistical report to analyse delay factors which impact court proceedings; performed statistical analysis in R and established a standardized data management and verification protocol.
- April 2019 – June 2019 **Statistician / Independent Consultant (part-time)**
Swiss Embassy/Swiss Contact, Tirana, Albania
- Skills for Jobs project: Delivered complex statistical reporting to drive strategy development and long-term performance by employing comparative analysis with previous surveys conducted regarding labor market and professional high-schools.
- March 2018 – April 2019 **Statistician / Independent Consultant (part-time)**
UNDP, Tirana, Albania
- STAR2 project: Created ToRs and led data science tasks/data extraction to build a national dashboard for municipalities to interact with the public and drive decision-making.
- Oct 2016 – June 2017 **Statistician / Independent Consultant (part-time)**
Ministry of Urban Development, Tirana, Albania
- Leave No One Behind project: Designed/developed Shiny dashboard, collecting and reporting from 61 municipalities with more than 150.000 observations in real-time data. Performed statistical research and translated findings into official reports to identify the true picture of municipalities' housing needs for non-employed people and other vulnerable groups.
- Oct 2015 – Oct 2016 **Statistician / Independent Consultant (part-time)**
UNSSIA/UNDP, Tirana, Albania
- Leave No One Behind project: Performed statistical research and translated findings into official reports to identify the true picture of municipalities' housing needs for non-employed people and other vulnerable groups.
- Oct 2014 – Nov 2017 **Statistician / Independent Consultant (part-time)**
SCB Sweden, Tirana, Albania
- Trained employees from the Albanian Institute of Statistics and from Kosovo Agency of Statistics (Pristine) on using R & Python Language to perform complex statistical analysis.

July 2014 – March 2015 Statistician / Independent Consultant (part-time)

UN Women, Tirana, Albania

GRB and Monitoring and Statistics /UN Support to Social Inclusion project: Provided an overall assessment of the needs of INSTAT with regards to coordinating and collecting key data to report on indicators being adopted in the NSDI and sectoral strategies and plans with regards to gender equality and women empowerment. Created ToRs and led data science tasks/data extraction to build a first Shiny R national dashboard of Albanian names collected from Civil State Agency.

May 2013 – Feb 2014 Statistician / Independent Consultant (part-time)

UNFPA, Tirana, Albania

One UN Programme of Cooperation: Developed the electronic index of Judges and Prosecutors to provide technical support to the School of Magistrates responsible for training Judges and Prosecutors.

Jan 2012 – June 2012 Statistician / Independent Consultant (part-time)

World Vision, Tirana, Albania

Developed the Social Services Online Database to provide technical support to Ministry of Social Welfare. Helped beneficiary (Ministry of Social Welfare) to create an intranet to support decision taking of the institution, help identify the social needs, and keep record of the institutions providing social services, type of service, facilities, programme length etc.

Jan 2011 – Sep 2011 Statistician / Independent Consultant (part-time)

UNFPA, Tirana, Albania

Developed the electronic database of Comprehensive RH Services, Information and Counseling for Institute of Public Health in Albania.

March 2008 – June 2010 Head of IT Directorate (full-time)

Ministry of Interior, Tirana, Albania

With expertise in IT, I directed projects from concept to completion, initiating plans and coordinating with stakeholders to deliver a comprehensive, well-executed project delivery. As a core member of major government IT project initiatives, I shared technical expertise to integrate key findings into product development road-maps.

Sep 2006 – Feb 2008 Certified SUN System Engineer (full-time)

Horizon sh.p.k, Tirana, Albania

Responsible for system management, I supervised the deployment/effective performance of Solaris based systems within global telecommunications corporations, facilitating migration and troubleshooting issues. By delivering improved, streamlined solutions, I led the smooth roll out of Solaris operating system upgrades and updates, introducing recovery solutions/backups to ensure Oracle databases perform to standard.

EDUCATION AND TRAINING

2011–2013 PhD

Polytechnic University of Tirane, Tirana, Albania

2004–2006 MSc System Analysis and Control

St. Petersburg State Polytechnic University (SPbGPU), Saint Petersburg, Russia

2004–2006 MSc Informatics and Computing Engineering

St. Petersburg State Polytechnic University (SPbGPU), Saint Petersburg, Russia

2000–2004 BSc System Analysis and Control

St. Petersburg State Polytechnic University (SPbGPU), Saint Petersburg, Russia

PERSONAL SKILLS

Mother tongue Albanian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Russian	C2	C2	C2	C2	C2
English	C2	C2	C2	C2	C2
TOEFL, IELTS					
Italian	C1	C1	C1	C1	C1

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
[Common European Framework of Reference for Languages](#)

Data Management Expertise

- Application of R statistical software: data analysis, data wrangling, visualisation, reporting, data.table, tidyverse, caret, e1071, xgboost, randomForest.
- Python: Data analysis / wrangling, visualisation, reporting, NumPy, Pandas, Scikit-learn, Flask
- SPSS, Excel
- Dashboards: Creation of dashboards i.e., indicators and statistics using Shiny R and PowerBI
- Databases: SQL, MySQL, Access
- Additional knowledge: ElasticSearch, Recommendation Engines, Customer Segmentation & Retention Models, Price Optimization, Productionizing Models, Git, LATEX, Markdown

Memberships Fullbright Programme, Albanian Mathematical Association

Driving licence A, B

BOOKS

- [1] Endri Raço, Etleva Llagami, Kleida Haxhi, and Oriana Zaçe. *Teoria e Probabilitetit dhe Statistika Matematike me ilustrime në gjuhën R*. Korçë, Shqipëri: Shtypshkronja KOTTI, 2017, ribotuar 2021.
- [2] Endri Raço, Etleva Llagami, Kleida Haxhi, and Oriana Zaçe. *Teoria e Probabilitetit dhe Statistika Matematike (Ushtrime)*, Korçë, Shqipëri: Shtypshkronja KOTTI, 2017, ribotuar 2021.

PAPERS

- [3] Endri Raço, Arian Beqiraj, Sabina Cenameri, and Aurela Jahja. "Use of Multivariate Statistical Analysis of Hydrochemical Data for the Identification of the Geochemical Processes in the Tirana-Fushe Kuqe Alluvial Aquifer, North-Western Albania". In: *Journal of Ecological Engineering* 23 (8 2022), pp. 327–340.
- [4] Oriana Zaçaj, Etleva Beliu, **Endri Raço**, Kleida Haxhi, and Kostaq Hila. "Comparative Approach of Tracking COVID-19 in Balkan Countries Using Interactive Web-Based Dashboard". In: *Interdisciplinary Perspectives on Infectious Diseases* 2022 (Dec. 2022), pp. 1–6.
- [5] Endri Raço, Kleida Haxhi, Etleva Llagami, and Oriana Zaçaj. "Comparison of Statistical Methods for Claims Reserve Estimation Using R Language". In: *WSEAS Transactions on Mathematics* 21 (2022), pp. 547–552.
- [6] Endri Raço, Kleida Haxhi, Etleva Beliu (Llagami), and Oriana Zaçaj. "Comparison of Statistical Methods for Claims Reserve Estimation Using R Language". In: *WSEAS Transactions on Mathematics* 23 (2022), pp. 327–340.
- [7] Etleva Beliu, Endri Raço, Kleida Haxhi, Oriana Zaçaj, and Kostaq Hila. "Two Statistical Methods to Analyze the Role of CHA2DS2VASc Score in Patients with STEMI". In: *WSEAS Transactions on Mathematics* 21 (2022), pp. 461–467.
- [8] Oriana Zaçaj, Endri Raço, Kleida Haxhi, Etleva Llagami, and Kostaq Hila. "Bootstrap Methods for Claims Reserving: R Language Approach". In: *WSEAS Transactions on Mathematics* 21 (2022), pp. 252–259.
- [9] Kleida Haxhi, Etleva Llagami, Endri Raço, and Oriana Zaçaj. "Reserving claims in two steps". In: *Science and Technologies* 11 (2: Natural and Mathematical Science 2021), pp. 252–259.
- [10] Endri Raço. "Comparison of arrival models in the context of urban transport". In: *Social and Natural Sciences Journal* 6 (2012).
- [11] Endri Raço. "Probability model of the customer arrivals". In: *Scientific Bulletin, University of Korça "Fan S.Noli"* (2012).
- [12] Endri Raço. "A mathematical model combining statistical methods with GIS methods". In: *Scientific Bulletin, University of Elbasan "Aleksander Xhuvani"* (2012).

CONFERENCES

- [13] Endri RAÇO. "SPSS to R: Shiny dashboard approach to converting tool". In: *International European Conference on Interdisciplinary Scientific Researches*. Valencia, Spain, 28-29 January 2022.
- [14] Endri RAÇO. "Social Housing in Albania: Using Shiny to enhance visualization and interpretation of study key findings". In: *New Trends in Mathematical Sciences, "International Symposium on Applied Mathematics and Engineering(ISAME 2022)"*. Istanbul, Turkey, 21-23 January 2022.
- [15] Endri RAÇO. "General overview and characteristics of domestic violence on children in Albania". In: *International Liberty Interdisciplinary Studies Conference*. Manhattan, New York, 16-17 January 2022.
- [16] Endri RAÇO, Kleida Haxhi, Etleva Llagami, and Oriana Zaçaj. "Modeling the Frequency of Auto Insurance Claims in the Albanian Market". In: *1st International Applied Statistics Conference*. Tokat, Turkey, 1- 4 October, 2020.
- [17] Endri RAÇO and Alma Kondi. "Albanian Institute of Statistics Approach to R Language". In: *International Conference on Applied Statistics and Econometrics(ICASE 2017)*. Epoka University and INSTAT, Albania, 2017.
- [18] Etleva Llagami, Oriana Zaçaj, Kleida Haxhi, and Endri RAÇO. "A Stochastic Mortality model for the Albanian Life Insurance Companies". In: *32nd Panhellenic Statistics Conference*. Hungary, 26-28 March, 2021.
- [19] Kleida Haxhi, Endri RAÇO, Etleva Llagami, and Oriana Zaçaj. "Estimating Claims Reserve Splitting IBNER and IBNYR in the Chain Ladder Method". In: *1st International Applied Statistics Conference*. Tokat, Turkey, 1- 4 October, 2020.

- [20] Etleva Llagami, Endri RAÇO, Kleida Haxhi, and Oriana Zaçaj. "Drug Eluting Stents versus Bare Metal Stents in Patients with ST-Elevated Myocardial Infarction". In: *1st International Applied Statistics Conference*. Tokat, Turkey, 1- 4 October, 2020.
- [21] Kleida Haxhi, Endri RAÇO, Etleva Llagami, and Oriana Zaçaj. "Uncertainty of the Claims Development Result in the Chain Ladder Method for Compulsory Motor Insurance". In: *1st International Applied Statistics Conference*. Tokat, Turkey, 1- 4 October, 2020.
- [22] Oriana Zaçaj, Kleida Haxhi, Endri RAÇO, and Etleva Llagami. "The Impact of the Insurance Market to the Financial Stability in Albania". In: *1st International Applied Statistics Conference*. Tokat, Turkey, 1- 4 October, 2020.
- [23] Kleida Haxhi, Oriana Zaçaj, and Endri RAÇO. "Solvency II: how to implement it to the Albanian insurance market". In: *The XXIX International Scientific Conference*. Trakya University, Stara Zagora, Bulgaria, June 6-7, 2019.
- [24] Oriana Zaçaj and Endri RAÇO. "The risk of catastrophes through Solvency II". In: *The XXIX International Scientific Conference*. Trakya University, Stara Zagora, Bulgaria, June 6-7, 2019.
- [25] Etleva Llagami, Kleida Haxhi, and Endri RAÇO. "Mortality rates: Updating the most appropriate rates for the Albanian life insurance companies". In: *32nd Panhellenic Statistics Conference*. Statistical Institute and the Department of Mathematics of the University of Ioannina, Greece, May 30 - June 1, 2019.
- [26] Kleida Haxhi, Endri RAÇO, and Etleva Llagami. "The predictive distribution for claims reserves in the Albanian motor insurance". In: *32nd Panhellenic Statistics Conference*. Statistical Institute and the Department of Mathematics of the University of Ioannina, Greece, May 30 - June 1, 2019.
- [27] Teuta Myftiu, Adrian Naço, and Endri RAÇO. "eHealthcare as part of e-Government in Albania". In: *Information Systems and Technology Innovations: Fostering the As-A-Service Economy*. Faculty of Economics, Tirana University, Albania, June 23-24, 2017.
- [28] Shkëlqim Kuka, Adrian Naço, Teuta Myftiu, and Endri Raço. "GIS with BI Component in Decision Taking". In: *Information Systems and Technology Innovations: Fostering the As-A-Service Economy*. Faculty of Economics, Tirana University, Albania, June 23-24, 2017.
- [29] Oriana Zaçaj, Endri RAÇO, and Raimonda Dervishi. "Actuarial investigations on the mortality rates of the life insured classes in Albania". In: *The 2nd International Conference on Applied Sciences and Engineering 2017 (ICEAS 2017)*. FIMIF, Tirana Polytechnic University, Albania, June 23-24, 2017.
- [30] Etleva Llagami, Endri RAÇO, and Kleida Haxhi. "Maximum Likelihood estimation and policy limit bound for loss amount distributions". In: *The 2nd International Conference on Applied Sciences and Engineering 2017 (ICEAS 2017)*. FIMIF, Tirana Polytechnic University, Albania, June 23-24, 2017.
- [31] Akli Fundo, Endri RAÇO, Adrian Naço, and Teuta Myftiu. "Lidhja statistikore midis varfërisë rurale dhe difekteve kongjentine". In: *Sistemet e Informacionit dhe Teknologjitë e Reja: Projektimi i Trendeve drejt një Ekonomie të Re*. Faculty of Economics, Tirana University, Albania, 2014.
- [32] Endri RAÇO. "A Combination of statistical methods with GIS in modelling". In: *Information Systems and Technology Innovation: their application in Economy*. Faculty of Economics, Tirana University, Albania, June 8-9, 2012.
- [33] Endri RAÇO. "Validation of the model used in parameter estimation of a public transportation data, using simulations". In: *XIV Scientific Conference of High Technologies*. Saint Petersburg, Russia, 2012.
- [34] Endri RAÇO. "Parameter estimation in public transportation models using R language". In: *International Economy & Business Doctoral Students Conference*. Faculty of Economics, Tirana University, Albania, 2012.

- [35] Endri RAÇO. “Një kombinim i metodave statistikore me metodat GIS në modelim”. In: *Studimet e avancuara në Inxhinieri, Matematikë, Fizikë dhe Kimi*. UPT/FIMIF Tirane, Shqiperi, 2011.
- [36] Endri RAÇO. “Approach with the software help in the optimal distribution process”. In: *The role of IT in the Albanian Society Development*. Faculty of Economics, Tirana University, Albania, 2010.
- [37] Endri RAÇO. “The problem of 2D material cutting , the use of software to solve the problem”. In: *The role of IT in the Albanian Society Development*. Faculty of Economics, Tirana University, Albania, 2010.

INTERNATIONAL CONFERENCE PUBLICATIONS IN PROCEEDINGS

- [38] Endri RAÇO. “SPSS to R: Shiny dashboard approach to converting tool”. In: *Proceedings of International European Conference on Interdisciplinary Scientific Researches*. Valencia, Spain, 28-29 January 2022, pp. 500–504.
- [39] Endri RAÇO. “Social Housing in Albania: Using Shiny to enhance visualization and interpretation of study key findings”. In: *Proceedings of International Symposium on Applied Mathematics and Engineering (ISAME 2022)*. Vol. 10. Valencia, Spain, 2022, pp. 038–041.
- [40] Endri RAÇO. “General overview and characteristics of domestic violence on children in Albania”. In: *Proceedings of International Liberty Interdisciplinary Studies Conference*. Manhattan, New York, 16-17 January 2022, pp. 212–217.
- [41] Endri RAÇO and Alma Kondi. “Albanian Institute of Statistics Approach to R Language”. In: *Proceedings of ICASE 2017 International Conference on Applied Statistics and Econometrics*. Epoka University and INSTAT, Albania, 27-28 APRIL 2017, pp. 17–21.
- [42] Oriana ZAÇAJ, Kleida HAXHI, Endri RAÇO, and Etleva LLAGAMI. “Development of insurance market in Albania”. In: *Proceedings of 6th IKSAD International Conference on Social Sciences*. Hungary, 26-28 March, 2021, pp. 495–498.
- [43] Kleida Haxhi, Endri RAÇO, Etleva Llagami, and Oriana Zaçaj. “Estimating Claims Reserve Splitting IBNER and IBNYR in the Chain Ladder Method”. In: *Proceedings of 1st International Applied Statistics Conference*. Tokat, Turkey, 1- 4 October, 2020, pp. 154–158.
- [44] Etleva Llagami, Endri RAÇO, Kleida Haxhi, and Oriana Zaçaj. “Drug Eluting Stents versus Bare Metal Stents in Patients with ST-Elevated Myocardial Infarction”. In: *Proceedings of 1st International Applied Statistics Conference*. Tokat, Turkey, 1- 4 October, 2020, pp. 219–224.

RESEARCH STUDIES

- [45] Endri Raço. “Social Housing in Albania”. In: UNDP. June, 2016. URL: <https://www.undp.org/sites/g/files/zskgke326/files/migration/al/ReportWord-data-base-social-housing-final.pdf>.
- [46] Endri Raço, Andrea Salvini, Tomas Kutchera, and Endrit Shabani. “Predictive Modelling: Migration Impact on the Albanian Workforce and Skills Development Needs, from a gender perspective, in Albania”. In: IOM. 2022-present.