



# Harnessing web data for next-generation skills intelligence

Cedefop and Eurostat research conference

## List of accepted abstracts

### ***A Hybrid Semantic Normalization Framework for Mapping Multilingual Job Postings to European Taxonomies***

Panagiotis Zervas, Associate Professor, Department of Electrical and Electronics Engineering, University of Peloponnese, Patras, Greece

Giannis Tzimas, Professor, Department of Electrical and Electronics Engineering, University of Peloponnese, Patras, Greece

Konstantinos |Giotopoulos, Associate Professor, Department of Management Science and Technology, University of Patras, Patras, Greece

Łukasz Sienkiewicz, Associate Professor, Department of Human Capital, Faculty of Management and Economics, Gdańsk University of Technology, Gdansk, Poland

Flavia Pesce, Director, Training, Labour, Community and Local Development Area, Institute for Social Research, Bologna, Italy

### ***A methodological focus on skills analysis : experimentations with lexicometry and Natural Language Processing***

Eline Delmarcelle, Analyst, Bruxelles Formation

Elise Ugeux, Analyst, Bruxelles Formation

### ***A Vacancy Data-Driven Institutional Ecosystem: Bridging the Education-Employment Gap through Real-Time Skills Intelligence***

Carmen Pagés, Professor School of Business and Economics and Director of Skills Forecasting and Labour Market Analysis Unit, Universitat Oberta de Catalunya

Adrià Lòpez, Data Analyst, Universitat Oberta de Catalunya

Rafael Sosa, Data Analyst, Universitat Oberta de Catalunya





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### ***Advertised Technologies: Identifying Adoption of Emerging Technologies in Online Job Postings***

Tommaso Ciarli, Senior Research Fellow, UNU-MERIT, United Nations University;  
SPRU, University of Sussex

Anna Giabelli, Researcher, Istituto Mario Negri

Ekaterina Prytkova, PostDoc, Côte d'Azur University

Fabien Petit, Assistant Professor, University of Barcelona

### ***Agent-Based Knowledge Graph-Augmented Skills Extraction from Online Job Advertisements***

Mikołaj Tym, Researcher, Poznań University of Economics and Business

### ***AI-Complementary Skills: Real-Time Evidence from Italian Job Postings***

Greta Sofia Lampis, Researcher and PhD student, Fondazione Bruno Kessler -  
Research Institute for the Evaluation of Public Policies

### ***Beyond Composite Indices: Using Online Job Advertisements to Reveal Gender-Blind Spots in Skills Intelligence***

Irina Dimitrova, National VET Team Expert/ VET and labour market researcher,  
National VET Team Bulgaria, Human Resources Development Center

### ***Bridging Skills Demand and Vocational Qualifications: Linking Online Job Postings with National Skills and Qualification Frameworks***

Mauro Pelucchi, Head of Global Data Science, Lightcast

Sophie Gvasalia, Lightcast

Anna Clara Gatti, Lightcast

Ettore Colombo, Lightcast

Luca Agostoni, Lightcast

Simone Perego, Lightcast





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### ***Building a Common Language for the Twin Transition: Reference Frameworks for Digital and Green Skills***

Diana Ripkova Puhovichova, Project Manager, Digital Coalition

Mario Lelovsky, Chairman of the Digital Coalition of the Slovak Republic, Digital Coalition

Martin Martinkovic, Consultant, Digital Coalition

### ***Climate Change Policy Shocks, Green vacancies, and Labour Market Dynamism***

Emilio Colombo, Professor of Economics, Università Cattolica del sacro Cuore

Patrizio Tirelli, Professor of economics, University of Pavia

Angelica Bertucci, Post Doc Economics, University of Pavia

### ***Digital Skills Demand in Greece: Labour Market Analysis Using kariera.gr Online Job Vacancies***

Petros Stavropoulos, Research Associate, ATHENA Research and Innovation Center

Maria Pateli, Research Associate, ATHENA Research and Innovation Center

Haris Papageorgiou, Research Director, Vice Director of ILSP, ATHENA Research and Innovation Center

### ***Disruption or Augmentation? The Changing Demand for AI Skills in the Age of Generative AI***

Loris Vergolini, Associate professor, University of Bologna

Chiara Binelli, Associate professor, University of Bologna

Teresa Luca, Research student, University of Bologna

Gabriele Marconi, Data scientist, Agence pour le développement de l'emploi

### ***From “green skills” to actionable skills intelligence: linking workplace deployment, leadership and VET curricula through a territorial taxonomy (Gipuzkoa case)***

Itziar Garcia Blazquez, Researcher, Orkestra - Basque Institute of Competitiveness

Mikel Albizu, Researcher, Orkestra - Basque Institute of Competitiveness





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### ***From Web Data to Actionable Skills Intelligence: A Three-Stage Architecture for Europe's Advanced Digital Skills***

Anu Passi-Rauste, Chief Business Officer, HeadAI

Brendan Rowan, Senior Consultant, BluSpecs

Harri Ketamo, Founder & Chairman, HeadAI

Ivana Pesic, Chief Product Officer, HeadAI

Julie Byrne, Assistant Professor in Online Education & Development, Trinity College Dublin, the University of Dublin

Na Fu, Chair Professor of Responsible Leadership, Trinity College Dublin, the University of Dublin

### ***GPS Professional: A Dual-Pathway Hybrid Intelligence Platform for Skills-Based Career Guidance Integrating OJA Data***

Marina Muñoz Martínez, Researcher, Universitat Oberta de Catalunya (UOC)

Gonzalo Ignacio Cubillos Ríos, Researcher, Universitat Oberta de Catalunya

### ***Harnessing Real-Time Labor Market Intelligence: Machine Learning and NLP Approaches to Online Job Advertisement Data for Policy, Education, and Career Mobility***

Hamdy Ragb, Education and Training Advisor, Colleges of Excellence

### ***Harnessing web data for next-generation skills intelligence in the UK***

Jeisson Cardenas, Senior Economist, Cambridge Econometrics

Rosie Day, Computer officer, University of Warwick

Neil Bachelor, CEO

Peter Elias, Professor, University of Warwick

Andy Dickerson, Professor, Sheffield University





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### ***How Do Policies Activate the Overlap Between Occupational Task Content and Technological Capabilities ? Employment Restructuring Under AI Policy Shocks***

Yingzi Qu, Marie Skłodowska-Curie Postdoctoral Fellow, UNIVERSITA DEGLI STUDI DI TRENTO

Mauro Caselli, Professor, UNIVERSITA DEGLI STUDI DI TRENTO

Andrea Fracasso, Professor, UNIVERSITA DEGLI STUDI DI TRENTO

### ***Imbalance and talent shortage in the Catalan labor market: survey insights and comparison with OJAs***

Paula Pedro Aznar, Sociologist and political scientist specializing in labor market studies, Universitat Oberta de Catalunya

Carmen Pagés Serra, Unit Director. PhD in Economics and expert in labour economics, Universitat Oberta de Catalunya

Adrià López Carrasco, Data analyst and marketing specialist, Universitat Oberta de Catalunya

### ***Labor Demand for Digital Skills during Wartime: Evidence from Russia's Invasion of Ukraine***

Britta Rude, Economist, World Bank

Yurii Kleban, Lecturer, National University of Ostroh Academy

### ***Labour Market Information System in Poland. Occupations and Skills***

Artur Gajdos, Assistant Professor, Centre of Labour Market Analysis, University of Lodz

Karolina Lewandowska-Gwarda, Associate Professor, Centre of Labour Market Analysis, University of Lodz

### ***Leveraging Machine Learning for Personalized Labor-Market-Relevant Training Pathway Recommendations in Serbia***

Milica Jelic Mariokov, Coordinator at the Centre for Accreditation of Adult Education Providers, The Qualifications Agency of the Republic of Serbia





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### ***Mapping Digitalization through Skill Demand: Firms, Sectoral, and Regional Labor Market Insights in Italy***

Sladana Krgovic, Researcher, CSIL (Centre for Industrial Studies)

Giulia Canzian, Senior Researcher, CSIL

Giulio Consiglio, Data Scientist, CSIL

Laura Delponte, Senior Researcher, CSIL

Erica Delugas, Senior Researcher, CSIL

### ***Mind the AI gap: A Stage-Based Human Capital Framework for the Fourth Industrial Revolution***

Mikel Albizu, Researcher, Orkestra (Basque Institute of Competitiveness)

Alba Rodríguez-Agüero, Innovation Manager, University of Alcalá and Possible Lab

Alejandro Sainz-Aja, Education Consultant, University of Alcalá and Possible Lab

### ***Modeling labour market mobility through dynamic skill representations***

Leyla el khamlichi EL khamlichi, Senior data scientist, UWV Employee Insurance Agency (Netherlands)

### ***Occupation classification algorithms at the Luxembourgish Public Employment Agency (ADEM)***

Gabriele Marconi, Data Scientist, Agence pour le développement de l'emploi (Luxembourg)

### ***Shifting skill demands across education levels: NLP and ESCO taxonomy applied to Italian OJAs***

Muratbek Tolokov, PhD student in EMIS & Researcher in Economics, Universities of Parma and Ferrara & UNESCO Chair on Education, Growth and Equality

Raida Tolokova, Researcher in Applied Economics, UNESCO Chair on Education, Growth and Equality

Valentina Mini, Coordinator of the Chair, UNESCO Chair on Education, Growth and Equality





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### ***Skills and AI Innovative Ecosystems: Evidence from Brazilian Microregions***

Florencia Jaccoud, Affiliated Researcher, UNU-MERIT

Rafael De la Vega, PhD Fellow, UNU-MERIT

María de las Mercedes Menéndez, Research Fellow, WIPO / UNU-MERIT

Cecilia Seri, PhD Fellow, UNU-MERIT

Tommaso Ciarli, Senior Researcher, UNU-MERIT

### ***Skills Demand and Regional Productivity***

Alexandra Badort, PhD, Luiss Guido Carli

Bernardo Caldarola, Economic Complexity Analyst, Joint Research Center

Ciarli Tommaso, Researcher, UNU-MERIT

Sidharth Rony, Postdoc, UNU-MERIT

### ***Skills intelligence analysis in the Offshore Renewable Energy sector in Europe: A value-chain approach***

Eleftherios Sdoukopoulos, Head of Environmental and Energy Impacts of Transport Systems Laboratory, Hellenic Institute of Transport (HIT) - Centre for Research and Technology Hellas (CERTH)

Lucía Fraga Lago, Coordinator of the Training Department, Centro Tecnológico do Mar

### ***Skills Intelligence Emilia-Romagna (SI-ER): Leveraging Web Data and AI for Next-Generation Regional Skills Intelligence***

Nicolò Pranzini, Head of Competencies and Territories for Innovation Unit, ART-ER

Alain Marengi, Senior Project Manager, ART-ER

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Francesca Carnevali, Collaborator-Skills Intelligence Emilia-Romagna Project, ART-ER

Mauro Pelucchi (Lightcast) also contributed to the drafting of the abstract.





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### ***Skills Intelligence for informing HEIs curricula: UPAL Labour Market tools***

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Gonzalo Cubillos, Researcher, Universitat Oberta de Catalunya

Carmen Pagés, Associate Professor and Director of the Skills Intelligence Unit (UPAL), Universitat Oberta de Catalunya

### ***Spatial Matching of Online Job Vacancies and Training Provision Data***

Nermin Oruc, Director of Research, Centre for Development Evaluation and Social Science Research

Aleksandar Kostadinov, PhD student, University of Ljubljana

### ***Telework Disruption and Digital Skills: Evidence from 700,000 Job Postings during COVID-19 Pandemic in Slovakia***

Brian Fabo, Researcher, Institute for Forecasting, Centre of Social and Psychological Sciences of the Slovak Academy of Sciences

Ivana Studená, Researcher, Institute for Forecasting, Centre of Social and Psychological Sciences of the Slovak Academy of Sciences

### ***The elephant never left the room: did gender discrimination went implicit in French job posting?***

Ylenia Curci, Professor, Université de technologie de Belfort Montbéliard

Anne-Sophie Bruno, Professor, Sorbonne Paris 1

Nathalie Greenan, Professor, Conservatoire National des Arts et Métiers

Mauro Pelucchi, Data scientist, Lightcast





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### ***The Hidden Innovators: Uncovering Capabilities and Industrial Dynamics in European Rural Areas***

Simone Sasso, Economist and Policy Analyst, European Commission - Joint Research Centre

Tommaso Ciarli, Senior Researcher, United Nations University - MERIT

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Alessio Bumbea, PhD Candidate, Universitas Mercatorum

### ***The ROI of Guidance: Measuring the Impact of Human-in-the-Loop Curation on STEM Talent Mobility***

Harshit Jaiswal, Founder & CEO, Flow Community Inc.

### ***The role of education and training offer data in skills intelligence***

Alice Bertoletti, Scientific Officer, European Commission - Joint Research Centre (JRC)

Judith Cosgrove, Scientific Officer, European Commission - Joint Research Centre (JRC)

Montserrat Lopez Cobo, Project Officer, European Commission - Joint Research Centre (JRC)





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## ***Tracking Upskilling and Reskilling via Skill Evolution in GitHub Profile READMEs***

Maria Papoutsoglou, Postdoctoral researcher, School of Informatics, Aristotle University of Thessaloniki, Thessaloniki, Greece

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Christoph Treude, Associate Professor, Computer Science Department, Singapore Management University

## ***Using Online Job Adverts Data on Skills to Identify Potential Career Pathways***

Nora Condon, Senior Data Analyst, Skills and Labour Market Research Unit, SOLAS

## ***What jobs do Polish companies offer to Ukrainian refugees? The role of occupational heterogeneity and dynamic changes over the war***

Robert Pater, Professor, Educational Research Institute, Warsaw

Graeme Roy, Professor in Economics, Interim Head of School, Adam Smith Business School, University of Glasgow

Sam Grant, Research Associate, Economics Department, University of Strathclyde

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