

# Summary

The habilitation thesis entitled "From storage to insights: The evolution of data analysis and databases in the age of artificial intelligence" describes mainly the candidate's professional career path, in terms of research, teaching and academic activity, as well as other activities carried out, from the moment of receiving the PhD title in the field of Economic Informatics, on 29.05.2015, based on the Order of the Ministry of National Education no. 3181, dated 06.02.2015, until the time of writing this thesis.

The description of the professional career path is structured along three main lines: scientific, teaching and academic, and professional (other than research and teaching) achievements, respectively.

*The presentation of scientific achievements includes:*

A quantitative presentation of the results obtained ([Scientific Achievements](#) section) - the candidate is author or co-author of 5 books and 30 articles, of which 6 articles indexed by ISI with a non-zero AIS, which have been cited so far in 510 papers of various types, of which more than 200 articles in ISI indexed publications or in other major indexing engines, and has been a member of the teams of 21 research or development contracts carried out in the period 2000-2022, within the Petrol-Gaze University of Ploiesti and the Bucharest Academy of Economic Studies.

An extensive description of the technologies that have been used in the research work carried out and / or that the author considers to be of interest for future research activities (section [Areas of scientific research addressed](#)). The section focuses on the three areas in which the author has carried out his research to date: Data Analysis, Databases and, to a lesser extent, Artificial Intelligence.

A collection of summaries of key published articles ([Scientific Achievements](#) section - [abstracts of the most significant published scientific papers](#)): "From the East-European Regional Day-Ahead Markets to a Global Electricity Market", "Insights into Energy Indicators Analytics Towards European Green Energy Transition using Statistics and Self-Organizing Maps", "Insights into Demand Side Management with Big Data Analytics in Electricity Consumers' Behavior", "Sustainable Development with Smart Meter Data Analytics Using NoSQL and Self-Organizing Maps", and "Databases Security Issues - A Short Analysis on The Emergent Security Problems Generated by NoSQL Databases" respectively.

*The presentation of teaching and academic achievements* is a description of the main teaching or teaching-related activities carried out by the author:

Over 22 years of teaching, the author has taught various computer science subjects, including topics such as databases, data structures, object-oriented programming, operating systems, and data analysis, among others. Teaching methods have been continually updated to reflect developments in the field. Feedback from both colleagues and students has been consistently positive.

The author has held the position of department director since 2016, adding valuable management experience.

The practical aspects of the topics are highlighted in the teaching, and students are given free access to Cisco and Oracle courses. The author has received several awards of excellence for his work with Cisco Academy students. To facilitate student access to resources, the author has maintained websites with educational materials and has also provided open access to various papers developed. In addition, to involve students in research, the author has set up a student journal at the Petrol-Gaze University of Ploiesti.

*The presentation of professional achievements (other than research and teaching)* is a description of professional activities in addition to research, teaching and academic activities. The author has contributed to the functions of the university through activities such as: Upgrading the university's e-mail system, preparing for accreditations and evaluations and participating at visits, managing and maintaining computer equipment and networks, coordinating specialist practice, serving on various committees such as degree, admissions and final examinations, mentoring students at scientific events, some of them winning awards, designing, implementing and managing faculty websites, eLearning platforms and other websites, both for the university and external organizations, organizing scientific events and creating partnerships with local, national and international entities, promotional activities for the faculty, etc.

The thesis is completed with a plan for the evolution and development of one's scientific, teaching, academic and professional career ([Evolution plan ...](#) section). In the same manner as the previous section, this is also structured along the same three thematic lines: the scientific research side, the teaching and academic side, and the other aspects of professional activity in university education.

*Scientific career development proposals* include ideas related to publications and research itself, and ways of exposure, respectively.

*The teaching and academic career development proposals* are grouped into categories related to lifelong learning and professional development, curriculum development, integrating technology into the teaching process, and mentoring and coaching, respectively.

*Proposals for career development (in directions other than research and teaching)* relate to establishing professional connections and community involvement.

The paper also contains a bibliography and appendices.