

Teaching Activities – Marian-Andrei RIZOIU

Teaching subjects and thematics

- I constantly doubled my research activity with a teaching and supervision activity. Holding a pedagogical degree in higher education, I have an experience of 7 years, during which I held more than 450 hours of lectures and student tutoring, for all levels, ranging from Undergraduate studies to Masters. I taught within the framework of international excellence programs, such as the **Masters Erasmus Mundus Excellence DMKM**¹ and the **Franco-Ukrainian Masters IDSM**² (cooperation between University Lyon2 and the University of Kharkov, Ukraine).
- Constantly obtaining highly positive evaluations in ANU's official Student Experience of Learning and Teaching (SELT).
- The subjects taught vary from IT (Programming, Calculus, Networking, Algorithms Design) to Machine Learning and Data Mining (association rules mining, decision trees, clustering, symbolic learning, ensemble methods) and Social Media Analysis.
- I have also tutored professional- and research-oriented Undergraduate, Masters and Honors internships, many of these finishing their degree with High Distinction.

Student supervision

- 2016 – present: **Co-supervision PhD student Siqi Wu (Australian National University)**
Popularity dynamics in a large collection of tweeted Youtube videos.
- Supervision of 4 Masters/Honors projects**
Quantifying user influence in social networks, EM for point processes, Detecting the reduction in online diversity.
- 2015 – present: **Co-supervision PhD student Swapnil Mishra (ANU & NICTA)**
Prediction of popularity in Social Media.
- 2014 – 2015: **Honors Research Project (Australian National University)**
Develop visualization tool for big social graphs, analyze information diffusion in social networks and link to popularity evolution.
- 2012 – 2013: **Case Study (Masters European Erasmus Mundus DMKM)**
Improve and optimize a topic extraction engine, from a corpus of texts of discussion forums.
- Research Initiation (Masters Computer Science)**
Improving the visualization of online social networks, extracted from discussion web forums.
- Academic Tutor for student professional internship**
Academic supervision. Students performed their end of studies internship in banks, insurance companies or software development enterprises.
- 2011 – 2012: **Case Study (Masters European Erasmus Mundus DMKM)**
Develop a visualization tool for online social networks, extracted from discussion web forums.
- 2010 – 2011 : **Case Study (Masters European Erasmus Mundus DMKM)**
Improve an article retrieving platform from online media journals, develop parsers, creation of a data warehouse and textual topic extraction.
- Research Initiation (Masters Computer Science)**
Develop a temporal visualization tool for textual topics, extracted from online discussion forums.
- Academic Tutor for student professional internship**
Academic supervision. Students performed their end of studies internship in banks, insurance companies or software development enterprises.
- 2009 – 2010 : **Research Initiation (Masters Computer Science)**
Develop an article retrieving platform from online media journals, develop parsers, creation of a data warehouse and textual topic extraction.

1 European Master of Excellence in Machine Learning and Knowledge Discovery. [Website](#).

2 Master of Business Intelligence and Statistics for Management. [Website](#).

Teaching activity

Year	Sem	Course name (type and level) and brief description	vol
2016: Research fellow @ANU	Sem. 2	Document Analysis (3rd year Undergraduate and Honnors) Notions of classification and clustering, graph theory, visualization tools, centrality and community measures, sentiment analysis.	20h
	Sem. 1	Advanced Databases and Data Mining (3rd year Undergratuete) Concepts of data warehousing and OLAP techniques, fundamental data mining algorithms.	30h
2015: adjunct @ANU	Sem. 2	Document Analysis (3rd year Undergraduate and Honnors) Notions of classification and clustering, graph theory, visualization tools, centrality and community measures, sentiment analysis.	20h
2013 – 2014: Teaching assistant University Lyon 2	Sem. 1	Software Methodologies (Tutoring Masters Erasmus Mundus DMKM) Development of computer systems, complex systems.	15h
		Numerical Machine Learning (Lecture Master Erasmus Mundus DMKM) Association rules mining and ensemble methods.	3h
	Sem. 2	Object Oriented Programming (Lectures and laboratory Masters IDSM Kharkov) Introduction in object-oriented programming, Java GUIs, APIs.	25h
		Data Mining (Lab sessions Masters IDSM Kharkov) Data analysis in R: processing and data cleaning, statistical analysis, data mining.	14h
2012 – 2013: Teaching assistant University Lyon 2	Sem. 1	Software Methodologies (Tutoring Masters Erasmus Mundus DMKM) Development of computer systems, complex systems.	15h
		Object Oriented Programming (Lectures and laboratory Masters Computer Science) Introduction in object-oriented programming, Java GUIs, APIs.	25h
		Scientific Calculation (laboratory undergraduates) Programming in Octave, statistical and graphical calculations, time series analysis.	14h
	Sem. 2	Numerical Machine Learning (Lecture Master Erasmus Mundus DMKM) Association rules mining and ensemble methods.	3h
		UNIX Operating Systems et C programming language (Lectures and laboratory undergraduates IDS) Usege and administration of UNIX systems, Bash programming, C language programming.	25h
		Symbolic learning (Tutoring Master Erasmus Mundus DMKM) Introduction to artificial intelligence, machine learning, Formal Concept Analysis, Decision Trees, Association Rules.	15h
2011 – 2012: Teaching assistant University Lyon 2	Sem. 1	Object Oriented Programming (Lectures and laboratory Masters IDSM Kharkov) Introduction in object-oriented programming, Java GUIs, APIs.	25h
		Advanced Tables and Macros (Laboratory undergraduete IDS) Personalized functions and VBA macros, Excel visual interfaces.	21h
		Scientific Calculation (laboratory undergraduates) Programming in Octave, statistical and graphical calculations, time series analysis.	14h
	Sem. 2	Numerical Learning (Lecture Master Erasmus Mundus DMKM) Association rules mining and ensemble methods.	3h
2010 – 2011: Teaching assistant	Sem. 1	Applied computer science laboratory undergraduates IDEA) Personalized functions and VBA macros, Excel visual interfaces.	42h
		Initiation in programming in Visual Basic (laboratory undergrads) Notions of programming in Visual Basic, sort algorithms, data structures, graphical interfaces.	21h

University Lyon 2		Object Oriented Programming (Laboratory Masters Computer Science) Introduction in object-oriented programming, Java GUI, API	6h
	Sem. 2	Advanced Tables and Macros (Laboratory undergraduates IDS) Personalized functions and VBA macros, Excel visual interfaces.	11h
		ACCESS Databases (laboratory undergraduates IDEA) Introduction to databases, tables, queries, reports.	28h
2009 – 2010: Teaching assistant	Sem. 1	Initiation in programming in Visual Basic (laboratory undergrads) Notions of programming in Visual Basic, sort algorithms, data structures, graphical interfaces.	42h
University Lyon 2	Sem. 2	Advanced Tables and Macros (Laboratory undergraduates IDS) Personalized functions and VBA macros, Excel visual interfaces.	11h
		ACCESS Databases (laboratory undergraduates IDEA) Introduction to databases, tables, queries, reports.	14h
2008 – 2009 : TA Polytechnic Bucharest	Sem. 1	Communication Networks (Laboratory undergraduates Engineers) Notions of networking, communication protocols (TCP, IP, SSH), routing protocols (OSPF, RIP, IS-IS), local networks.	56h
2007 – 2008 : TA Polytechnic Bucharest	Sem. 2	Constructing and implementing algorithms (Laboratory undergraduates Engineer) Initiation to the construction of algorithms, data structures, graph structures and algorithms, spatial and temporal complexity calculation.	56h
Other courses capable to teach:		Operating System, Programming Languages (C/C++, Java, Python, C# etc.), Algorithms, Data Structures, Assembler, Databases, Object Oriented Programming, Parallel Programming, Operating Systems Programming, Web Programming, Data Mining / Machine Learning.	

Teaching contacts

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