Addi Ait-Mlouk, Ph.D.

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🌐 https://scholar.google.com/citations?user=nvgiplcAAAAJ&hl=en

Employment History

09/2020 – Present	🔖 **PostDoc Researcher** in Computer Science, Uppsala University, Uppsala, Sweden. Project: *Scalable federated machine learning*. HellanderLab on Computational Science and Engineering. Research Interests : Federated learning, Deep learning, NLP, AI, Applied cloud computing.
09/2018 – 08/2020	🔖 **PostDoc Researcher** in Computer Science, Umeå University, Umeå, Sweden. Project: *Privacy-aware federated database infrastructure construction for heterogeneous data analysis on micro-data* Group: Deep Data Mining Group (DDM). Research Interests : Data Mining, Privacy preserving , Semantic Web, NLP, knowledge Graph, Information Retrieval.
09/2017 – 07/2018	🔖 **Assistant Professor** in Computer Science, Private University of Marrakech, Morocco.
07/2013 – 12/2015	🔖 **ERP (Odoo) Consultant,** Sublimaroc, Casablanca, Morocco.

Education

01/2014 – 03/2018	🔖 **Ph.D. in Data Mining**, Cadi Ayyad University, Marrakech, Morocco. Thesis title: *Data Mining and association rules quality analysis in big data : Application on road safety.* Supervisor : Pr. Tarik Agouti Research Interests : Data Mining, Machine Learning, Big Data, Multiple Criteria Analysis, and Transportation.
09/2011 – 07/2013	🔖 **M.Sc. in Information Systems Engineering**, Cadi Ayyad University, Faculty of Science Semlalia, Marrakech, Morocco.
09/2008 – 07/2011	🔖 **B.Sc. in Software Engineering** , Faculty of Science and technology, Errachidia, Morocco.

Pedagogical Courses (Educational development)

11/2021 – 12/2021	🔖 **Curious about leadership - for future research group leaders**, Uppsala University, Uppsala, Sweden.
11/2021 – 11/2021	🔖 **Supervising student presentations in theory and in practice**, Uppsala University, Uppsala, Sweden.
08/2021 – 10/2021	🔖 **Academic Teacher Training Course 1**, Uppsala University, Uppsala, Sweden.
02/2020 – 04/2021	🔖 **Supervising Doctoral Students, spring 2021**, Uppsala University, Uppsala, Sweden.
04/2020 – 05/2021	🔖 **Assessment, grading and feedback**, Uppsala University, Uppsala, Sweden.
03/2020 – 05/2021	🔖 **Supervising Students for Degree Projects**, Uppsala University, Uppsala, Sweden.

Teaching Experience

03/2022 – 05/2022   🔖 **Uppsala University, Uppsala, Sweden**.
Course : *Data Engineering II (7.5 credits)*.
Level : *Master*.
Role : *Teacher: lectures, labs, seminars and mini-project*.

08/2021 – 10/2021   🔖 **Uppsala University, Uppsala, Sweden**.
Course : *Applied Cloud Computing (10 credits)*.
Level : *Master*.
Role : *Responsible for lectures, labs, seminars, mini-project and examination*.

2019 – 2020   🔖 **Umeå University, Umeå, Sweden**.
Course : *Machine Learning (ML)*.
Level : *Master*.
Role : *Guest Lecturer (two lectures)*.

2018 – 2019   🔖 **Private University of Marrakech (UPM), Marrakech, Morocco**.
Course 1 : *Database administration (DBA Oracle 11g)*.
Course 2 : *Web development*.
Level : *Bachelor*.
Role : *Responsible for lectures, labs, mini-project and examination*.

2016 – 2017   🔖 **Cadi Ayyad University, Marrakech, Morocco**.
Course 1 : *Programming C/C++*.
Course 2 : *Advanced Excel*.
Level : *Bachelor*.
Role : *Responsible for labs and examination*.

🔖 **Trainer, IT & Business Consulting, Casablanca, Morocco**.
Course 1 : *Information system -Odoo development /Python*.
Course 2 : *Data Science with R and Python*.
Role : *Responsible for training (lectures and labs)*.

2015 – 2016   🔖 **Trainer, Sublimaroc, Casablanca, Morocco**.
Course 1 : *Information system -Odoo development /Python*.
Role : *Responsible for training (lectures and labs)*.

2014 – 2015   🔖 **Cadi Ayyad University, Marrakech, Morocco**.
Course 1 : *Programming C/C++*.
Course 2 : *Advanced Excel*.
Level : *Bachelor*.
Role : *Responsible for labs and examination*.

Online teaching

2018 – 2021   🔖 **Mentor and degree project supervisor, at Openclassrooms.com (High-Tech)**.
Path 1 : *Artificial Intelligence Engineer (AI)*.
Path 2 : *Machine Learning Engineer (MLE)*.
Path 3 : *Data Scientist (DS)*.
Path 4 : *Python Application Developer (PAD)*.
Role : *Mentor and Examinator*.

Thesis reviewer

03/2021 – 06/2021   🔖 **Thesis title: Graph Neural Network Aggregation (Uppsala University)**.

04/2021 – 06/2021   🔖 **Thesis title: Vision through ears for blind or visually impairment people (Uppsala University)**.

Skills

Coding	🔖 Python, R, SQL, Java, PHP, SCALA.
Databases	🔖 MySQL, PostgresQL, MongoDB.
Software	🔖 Rstudio, Pycharm, Eclipse, Android studio, Code::Blocks, Git, Qgis
ERPs	🔖 Odoo (ex: OpenERP), ERPNext, Flectra, SAP
Modeling	🔖 UML, Merise
Mobile	🔖 JQuery mobile, React native, Android
Web Dev	🔖 Flask, Django, Odoo
Behavioral	🔖 Team work, Adaptation, Flexibility, Autonomy
Misc.	🔖 HPC, OpenStack, SNIC Cloud, Singularity, Knowledge Engineering, Data mining, Applied cloud computing, Artificial intelligence, Multi-agent systems, Multi-criteria decision analysis, Big Data, Predictive Maintenance, Applied Machine learning, Statistics, Data privacy, Federated Learning.

Grants

09 – 2021	🔖 **STINT- Initiation Grant**: Data, Decentralized Artificial Intelligence, and Knowledge Sharing for good (Uppsala University, Sweden and University (UH2C), Morocco) [Submitted]
03 – 2021	🔖 **SNIC AI/ML 2021**: Federated Learning for large models (Cloud resources)
	🔖 **UPPMAX 2021/2-4**: Federated NLP with FEDn (Cloud resources)
12 – 2019	🔖 **Wallenberg Foundation**: Wallenberg Travel Grants (https://thewebconf.org/www2019/)

Reviewer (Journals and Conferences)

Journal	🔖 Universal Journal of Computer Science (ISSN: 0948-695x)
	🔖 International Journal of Cluster Computing (ISSN: 1386-7857)
	🔖 International Journal of Big Data (ISSN: 2196-1115)
	🔖 Artificial Intelligence Review (ISSN: 1573-7462)
	🔖 IEEE Access
Conferences	🔖 The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD 2017)
	🔖 The 30th Australasian Joint Conference on Artificial Intelligence (AI 2017)
	🔖 ICDM 2019: 19th IEEE International Conference on Data Mining
	🔖 The 28th International Conference on Database and Expert Systems Applications (DEXA)
	🔖 International Conference on Computer Science and Application Engineering (CSAE 2017)
	🔖 3rd International Conference on Recent Trends in Computer Science and Electronics(RTCSE18)
	🔖 The 4th International Conference on Computer Science, Engineering and Information Technology (CSEIT-2017)
	🔖 The 5th International Conference on Fuzzy Systems and Data Mining (FSDM 2019)

Research Publications

Journal Articles

- Brahim Ait Ben Ali, **Addi Ait-Mlouk**, Soukaina Mihi, Ismail El Bazi, Nabil Laachfoubi, (2021) Arabic Named Entity Recognition on Social Media based on BiLSTM-CRF using an attention mechanism. journal of intelligent and fuzzy systems (JIFS).[Accepted]

- Morgan Ekmefjord, **Addi Ait-Mlouk**, Sadi Alawadi, Mattias Åkesson, Desislava Stoyanova, Ola Spjuth, Salman Toor and Andreas Hellander (2021) Scalable federated machine learning with FEDn. arXiv:2103.00148.

- **Addi Ait-Mlouk**; Vu, X.-S.; Jiang, L. (2020) WINFRA: A Web-Based Platform for Semantic Data Retrieval and Data Analytics. Mathematics 2020, 8, 2090. https://doi.org/10.3390/math8112090

- **Addi Ait-Mlouk**, Lili Jiang (2020) kbot: a knowledge graph based chatbot for natural language understanding over linked data, in IEEE Access, vol. 8, pp. 149220-149230, 2020, doi: 10.1109/ACCESS.2020.3016142..

- **Addi Ait-Mlouk** and T.Agouti, (2019) DM-MCDA: Aweb-based platform for data mining and multiple criteria decision analysis: A case study on road accident. SoftwareX (2019) 100323, https://doi.org/10.1016/j.softx.2019.100323.

- Marzak B, **Addi Ait-Mlouk**, El Moumni S, Benlahmar E, Talea M. (2018) Stable routing protocol based on fuzzy logic system in vehicular ad hoc networks. Int J Commun Syst. 2018;e3587. https://doi.org/10.1002/dac.3587.

- **Addi Ait-Mlouk**, Gharnati, F., Agouti, T. (2017) An improved approach for association rules mining using multi-criteria decision support system: A case study in road safety. European Transport Research Review, Vol.9, No.3, pp. 1-13, https://doi.org/10.1007/s12544-017-0257-5.

- **Addi Ait-Mlouk**, Gharnati, F., Agouti, T. (2017) Application of big data analysis with decision Tree for road accident. Indian Journal of Science and Technology, Vol. 10, No. 29, pp. 1-10, DOI: 10.17485/ijst/2017/v10i29/117325.

- **Addi Ait-Mlouk**, Kamsa, I., Gharnati, F., Agouti, T. (2017) Intelligent transport system for road safety based data mining approach. International Journal of Control and Automation, Vol.10, No.8, pp.13-22.

- **Addi Ait-Mlouk**, Gharnati, F., Agouti, T. (2017) Mining and prioritization of association rules for Big Data: Multi-criteria decision analysis approach. Journal of Big Data.

- Raja Mouachi, **Addi Ait-Mlouk**, Fatima Gharnati and Mustapha Raoufi(2017) A Choice of Symmetric Cryptographic Algorithms based on Multi-Criteria Analysis Approach for Securing Smart Grid. Indian Journal of Science and Technology, Vol. 10, No. 39, pp. 1-9, DOI:10.17485/ijst/2017/v10i39/119856.

- **Addi Ait-Mlouk**, Gharnati, F., Agouti, T. (2017) Multi-criteria decisional approach for extracting relevant association rules. Int. J. of Computational Science and Engineering, Vol. 15, No.3/4, pp. 188–200.

- **Addi Ait-Mlouk**, Gharnati, F. Agouti, T. (2016) Multi-Agent Based Modeling for Extracting Relevant Association Rules Using a Multi-Criteria Analysis Approach. Vietnam Journal of Computer Science, Vol.3, N.4, pp 235–245.

Conference Proceedings

- **Addi Ait-Mlouk**, Lili Jiang (2020) A Web-based Platform for Mining and Ranking Association Rules. The 42st European Conference on Information Retrieval (**ECIR 20**), April 14-17, Lisbon, Spain. **[Rank: A]**

- Xuan-Son Vu, **Addi Ait-Mlouk**, Erik Elmroth, Lili Jiang (2019) Graph-based Interactive Data Federation System for Heterogeneous Data Retrieval and Analytics. **The 30th TheWebConf'19 (formerly WWW)**, May 13-17, 2019. San Francisco, Californie, U.S. **[Rank: A^*]**

- **Addi Ait-Mlouk**, Xuan-Son Vu, Erik Elmroth, Lili Jiang (2019) Improving RDF data through semantic association rules mining. The 31st annual workshop of the Swedish Artificial Intelligence Society (SAIS 2019), June 18-19, Umeå, Sweden.

Research Publications (continued)

- Xuan-Son Vu, **Addi Ait-Mlouk**, Erik Elmroth, Lili Jiang (2019) Privacy-concerns in the Era of AI and Social Network Sites. The 31st annual workshop of the Swedish Artificial Intelligence Society (SAIS 2019), June 18-19, Umeå, Sweden.

- Lili Jiang, Xuan-Son Vu, **Addi Ait-Mlouk**, Anders Brändström and Erik Elmroth (2019) Privacy-aware Data Federation Infrastructure. The 31st annual workshop of the Swedish Artificial Intelligence Society (SAIS 2019), June 18-19, Umeå, Sweden.

- **Addi Ait-Mlouk**, Gharnati, F., Agouti,T. (2017) Application of big data analysis with decision Tree for road accident. 3rd International Conference on Green Computing and Engineering Technologies, August 8-10. Killaloe, County Clare, Ireland.

- **Addi Ait-Mlouk**,Kamsa, I., Gharnati, F., Agouti,T. (2017) Intelligent transport system for road safety based data mining approach. 3rd International Conference on Green Computing and Engineering Technologies, August 8-10. Killaloe, County Clare, Ireland.

- **Addi Ait-Mlouk**, Gharnati, F., Agouti, T. (2017) An Approach Based on MapReduce and Decision Tree to Improve Road Safety in Morocco. International symposium on data engineering and information systems (DEIS'2017), Mai 19-05, 2017, Marrakech, Morocco.

- **Addi Ait-Mlouk**, Gharnati, F., Agouti, T. (2016) Mining Traffic Accident from Big Data: The case study of Morocco. The First International Conference of High Innovation in Computer Science (ICHICS'2016), June 01-03, 2016, Kenitra, Morocco.

- Formation Science des Données (2016) La Conférence Internationale Francophone AAFD SFC, Mai 22-26, 2016, Marrakech, Morocco.

- **Addi Ait-Mlouk**, A. Tarik and G. Fatima (2016) An approach based on association rules mining to improve road safety in Morocco. International Conference on Information Technology for Organizations Development (IT4OD), Fez, 2016, pp. 1-6.doi: 10.1109/IT4OD.2016.7479311

- **Addi Ait-Mlouk**, Gharnati, F., Agouti, T. (2015) Association Rules Mining based On Electre Tri Method. The 4th International Conference on Software Engineering and New Technologies (ICSENT'2015), December, 20-24, 2015, Istanbul, Turkey.

- **Addi Ait-mlouk**, A. Tarik, G. Fatima and D. Badi, (2015) A choice of relevant association rules based on multi-criteria analysis approach. 5th International Conference on Information and Communication Technology and Accessibility (ICTA), Marrakech, Morocco, 2015, pp. 1-6. doi: 10.1109/ICTA.2015.7426886

- Aznaoui, H., **Addi Ait-Mlouk** (2015) Classification of routing Protocol in WSNs. The 4th International Conference on Software Engineering and New Technologies (ICSENT-2015), December, 20-24, 2015, Istanbul, Turkey.

- H. Aznaoui, S. Raghay, L. Aziz and **Addi Ait-Mlouk** (2015) A comparative study of routing protocols in WSN. 5th International Conference on Information and Communication Technology and Accessibility (ICTA), Marrakech, Morocco, 2015, pp. 1-6.

- **Addi Ait-Mlouk**, A. Tarik and G. Fatima (2015) Comparative survey of association rule mining algorithms based on multiple-criteria decision analysis approach. 3rd International Conference on Control, Engineering and Information Technology (CEIT), Tlemcen, Algeria 2015, pp. 1-6. doi: 10.1109/CEIT.2015.7233078

- **Addi Ait-Mlouk**, Gharnati, F., Agouti, T. (2015) Evaluation of association rules extraction algorithms. International Conference on Networked Systems (NETYS'2015), May 13-15, 2015. Agadir, Morocco.

- Addi Ait-Mlouk, Gharnati, F., Agouti, T. (2015) On selecting interestingness measures for association rules extraction based on electre tri method. 1er forum de la recherche scientifique, Jun, 2015. Marrakech, Morocco.

Chapters

- **Addi Ait-Mlouk,** Mohamed A.M, Fatima Zahra El., Arendam D., Agouti T. (2021) Fuzzy set theory-based approach for mining spatial association rules: road accident as a case study Chapters. In: AI and IoT for Sustainable Development in Emerging Countries.

Current work (Submitted, in progress)

- **Addi Ait-Mlouk** and Tarik Agouti (2021) Complex networks analysis using measures of degree, bitterness and closeness centrality: Application to influential users in social networks [In progress].
- **Addi Ait-Mlouk,** Sadi Alawadi, Salman Toor, Andreas Hellander (2021) Febot: Privacy-aware conversational AI assistant for customer support based on federated machine learning [In progress].
- **Addi Ait-Mlouk,** Fatima Zahra El Mazouri (2021) Core techniques of chatbots over linked data: a survey and comparative study [In progress].
- Sadi Alawadi, **Addi Ait-Mlouk**, Salman Toor, Andreas Hellander (2021) Do we need to train all layers in neural networkmodels using federated machine learning settings [In progress].
- **Addi Ait-Mlouk**, Sadi Alawadi, Salman Toor, Andreas Hellander (2021) FedQAS: Privacy-aware machine reading comprehension with federated learning [Submitted].
- Tarik Agouti, Mohamed El-Moussaoui, **Addi Ait-Mlouk** (2021) A graph based modeling using association rule mining to detect influential users in social networks [Submitted to Expert Systems with Applications].

Languages

English	Strong reading, writing and speaking competencies
French	Strong reading, writing and speaking competencies
Tamazight	Strong reading, writing and speaking competencies
Swedish	Learning
Spanish	Learning

References

Available upon request.