

ANTONIO JAVIER NAKHAL AKEL

EDUCATION

- 11/2020 – Ongoing **PhD Student in “Industrial and Management Engineering”, Sapienza University of Rome, Rome, Italy - three-years full time fellowship**
This PhD research focuses on resilience analysis for the evolution of industrial sociotechnical systems in critical or highly complex contexts in the issues related to safety management and risk analysis.
- 10/2018 – 10/2020 **MSc in Mechanical Engineering, focus on Management of Industrial and Production Systems, Sapienza University of Rome, Rome, Italy**
Final grade: 106/110
Final Work: “A Business Intelligence approach to support the analysis of industrial accident reporting systems”. The thesis developed a data model able to identify and describe information related to risk and safety management.
- 05/2018 – 05/2018 **BSc in Mechanical Engineering, Sapienza University of Rome, Rome, Italy**
Final Grade: 98/110
Obtained in accordance with the double Degree Program between Central University of Venezuela and Sapienza University of Rome
- 03/2013 – 11/2021 **BSc in Mechanical Engineering, Central University of Venezuela, Caracas, Venezuela**
Final Grade: 15,54/20
(Double degree program)
- 09/2007 – 07/2012 **High School Diploma, College “Santa Rosa de Lima”, Caracas, Venezuela**

PROFESSIONAL EXPERIENCE

- 10/2014 - 05/2018 **Teaching Assistant of Mechanical Design in Engineering at “Universidad Central de Venezuela”**
This position is earned by an annual public competition. This competition consists of a written exam that must be passed with a score of 15/20 or more and a 90-minute master class in which a random subject must be presented. The average of my competition in the three years was 18/20. I was the second better grade out of 5 people applying for this job. In charge of: (i) Laboratory practice (4 hours of dedication per week). With groups of 15 students for each practice. (ii) Solution of practical and theoretical doubts (2 hours of dedication per week). Throughout the semester once a week.
- 12/2016 – 03/2018 **Teaching Assistant of Mechanical Vibrations at "Universidad Central de Venezuela"**
This is an annual public competition consisting of a written exam that must be passed with a score of 15/20 or more and a 90-minute master class in which a random subject from the course had to be presented. The average of my competition was 17/20. I was the second better grade out of 4 people applying for this job. In charge of: (i) Organization and creation of laboratory practices (2 hours of dedication per week). About 6 laboratory practices per semester. (ii) Laboratory practice (2 hours of dedication per week). With groups of 6 students for each practice. (iii) Solution of practical and theoretical doubts (2 hours of dedication per week). Throughout the semester once a week.

PERSONAL SKILLS

- Languages **Spanish** (Mother tongue)
Italian (Fluent, Basic Professional Competence)
English (Advanced, Basic Professional Competence)
- Software's **MS. Office Pack** (Advanced)
AutoCAD (Advanced)
MATLAB / Simulink (Intermediate)
Inventor (Intermediate)
Solidworks (Intermediate)
Power BI (Intermediate)
ANSYS (Basic)
Python (Basic)

PUBLICATIONS

Journal paper

06/2021 Nakhal, A.J.A., Patriarca, R., Di Gravio, G., Antonioni, G., Paltrinieri, N. Business intelligence for the analysis of industrial accidents based on MHIDAS database (2021) Chemical Engineering Transactions, 86, pp. 229-234. DOI: 10.3303/CET2186039

Journal paper

07/2021 Nakhal A, A. J., Patriarca, R., Di Gravio, G., Antonioni, G., & Paltrinieri, N. (2021). Investigating occupational and operational industrial safety data through business intelligence and machine learning. Journal of Loss Prevention in the Process Industries, 73. DOI: 10.1016/j.jlp.2021.104608

International conference

05/2021 Nakhal A., A.J., Patriarca, R., Di Gravio, G., Antonioni, G., Paltrinieri, N., (2021). *Business Intelligence for the Analysis of Industrial Accidents Based on MHIDAS Database*. Paper published at the Journal Chemical Engineering Transactions, June 2021 and presented in the 15th International Conference on Chemical and Process Engineering (ICheaP 15), May 2021; Naples; Italy.

Journal paper (under review)

09/2021 Nakhal A., A.J., Di Gravio, G., Fedele, L., Patriarca, R., (2022). *A systems-theoretic socio-technical accident analysis for rail operations*. Paper under review at the Journal Accident Analysis and Prevention, August 2021.

Book Chapter (under review)

12/2021 Nakhal A., A.J., Paltrinieri, N., Patriarca, R., (2022). *Business Analytics to advance industrial safety management*. Chapter 17 under review at the book Engineering Reliability and Risk Assessment to be published by Elsevier, December 2021.

Journal paper (under review)

12/2021 Nakhal A., A.J., Patriarca, R., Tronci, M., Agnello, P., Ansaldi, S. M., Ledda, A., (2022). *A STAMP model for safety analysis in industrial plants*. Paper under review at the Journal Chemical Engineering Transactions, December 2021 and if accepted will be presented in the 10th International Conference on Safety & Environment in Process & Power industry (CISAP 10), May 2022; Firenze; Italy.

Journal paper (under review)

01/2022 Nakhal A., A. J., Hovstad, J. S., Ruth, M. S., Parmeggiani, S., Patriarca, R., Paltrinieri, N., (2022). *A Machine Learning approach to analyze natural hazards accident scenarios*. Paper under review at the Journal Chemical Engineering Transactions, January 2022 and if accepted will be presented in the 10th International Conference on Safety & Environment in Process & Power industry (CISAP 10), May 2022; Firenze; Italy.

EXTRA CURRICULAR ACTIVITIES

10/2015 – 07/2016

Member of the SAE AeroDesingUCV team at the "Universidad Central de Venezuela"

It is an annual Engineering competition event held in the United States, Brazil, Mexico, etc. The aim is a real-world design challenge designed to compress a typical aircraft development program into one calendar year, taking participants through the system engineering process of breaking down requirements. It exposes participants to the nuances of conceptual design, manufacturing, system integration/test, and sell-off through demonstration. My contribution in the team was around structure design and simulation analysis.

I hereby authorize the use of my personal data in accordance to the GDPR 679/16

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