Gabriel **Raya**

M.S. Computing Science

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Education

Radboud University — *Nijmegen, The Netherlands*
M.S. in Computing Science, Data Science specialization — *2018 - 2020*

Monterrey Institute of Technology and Higher Education — *Queretaro, Mexico*
B.S. in Electronic and Computer Engineering — *2008 - 2013*

Relevant courses and thesis

Courses

Fundamentals
- Statistical Machine Learning
- Machine Learning
- Advanced Machine Learning
- Bayesian Networks
- Data Analysis
- Numerical methods

Applications
- Intelligent Systems in Medical Images (CNNs)
- Machine Learning in Practice
- Machine Learning in Particle Physics and Astronomy
- Neural Information Processing Systems
- Data Mining
- Deep Learning

Master Thesis

Radboud University
Unsupervised out-of-distribution detection in digital pathology (PDF) — *November 2020*

Research/Work Experience

Computational Pathology Group, RadboudUMC — *Nijmegen, The Netherlands*
Visiting Researcher in Machine Learning — *Nov 2019 - Dic 2020*
- Implementing unsupervised deep learning techniques to detect lung cancer subtypes on digital pathology images
- Implementing unsupervised techniques to anomaly detection on digital pathology

Monterrey Institute of Technology and Higher Education — *Guadalajara, Mexico*
Software Engineer — *Jun 2015 - Dic 2020*
- Implementing machine learning algorithms for human activity recognition using data generated by wearable sensors

Cosielsa — *Queretaro, Mexico*
Algorithm engineer — *Aug 2013 - March 2015*
- Implementing control systems algorithms to maximize energy consumption for water supply systems.

National Autonomous University of Mexico — *Juriquilla, Mexico*
Resident — *Jun 2012 - Dec 2012*
- Analyzing the feasibility of using Clifford algebra to common tasks on robotics such as rotations and reflections

Honors & Awards

2019 **Mexican National Council for Science and Technology Scholarship**, 12 months scholarship — *Mexico*
2019 **Orange Tulip Scholarship**, 2nd year of the Master program — *The Netherlands*
2018 **Orange Tulip Scholarship**, 1st year of the Master program — *The Netherlands*

Projects/Publication

Neural image compression for non-small cell lung cancer subtype classification
Accepted in the SPIE Conference 2021 (doi link) — *August 2020*

Path Integral control of a n joint arm using the variational approximation
Advanced machine learning assignment (pdf) — *March 2020*

Coding skills

Languages
Python, C++, C

Deep Learning Libraries
Pythorch, Tensorflow