

# RESEARCH SOFTWARE ENGINEER

# DIANA MARIA TORRES RICAURTE

DOCTOR IN ENGINEERING

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## OBJECTIVE

I want to apply in research my knowledge and experience in the areas of software engineering and quality. I have a special interest in designing, developing and executing software solutions that drive the advancement in research across various disciplines. I am excited to collaborate closely with researchers, propose feasible software products that align with their requirements and enable efficient access to their research data.

My enthusiasm for continuous learning, my commitment to excellence, and desire to make a positive impact on society form the cornerstone of my professional approach.

## SOFT SKILLS

- Analytical skills with the ability to adopt strategies and quickly integrate new knowledge
- Ability to work independently
- Effective problem-solving capabilities
- Goal-oriented and driven to achieve results
- Skilled in knowledge transfer and effective communication

## HARD SKILLS

- Software development and maintain best practices
- Programming languages (Python, C++, Java, Visual, Scheme, MoZart)
- Web development (HTML, JavaScript, CSS, Php, ReactJS)
- DBMS (SQL, Postgres, MySQL)
- Version control system (Git, GitHub)
- Operating systems (Windows, MS-DOS, Linux)

## EXPERIENCE

**Python software developer | Jul 2022 – Sep 2022**

**Private project**

- Software development to normalize large data file with address information. This project was integrated with a geocoder.

**University Professor | Aug 2021 – Dec 2021**  
**Institución Universitaria ITM**

Courses:

- Introduction to data science course in Python
- Software development course
- General systems theory course

## EDUCATION

**Doctorate in Engineering – Systems and Informatics | 2019**

Universidad Nacional de Colombia

**Master of Engineering - Systems Engineering | 2014**

Universidad Nacional de Colombia

**Bachelor of Systems Engineering | 2003**

Universidad del Valle

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## QUALIFICATIONS

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- React.js | 2023
- NPM: Package and dependency management in JavaScript | 2023
- Frontend Developer | 2023
- Python: Comprehensions, Functions and Error Handling | 2023

## PUBLICATIONS

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### **Towards a theory of interoperability of software systems | 2023**

Ingeniería e Investigación Journal

DOI:

<https://doi.org/10.15446/ing.investig.102248>

### **Representing Interoperability between Software Systems by using Pre-conceptual Schemas | 2022**

International Journal on Electrical Engineering and Informatics

DOI: <https://doi.org/10.15676/ijeei.2022.14.1.7>

### **Towards a terminology unification in software interoperability | 2018**

44th Euromicro Conference on Software Engineering and Advanced Applications (SEAA), Czech

DOI: <https://doi.org/10.1109/SEAA.2018.00083>

See more publications on [ORCID](#)

## RESEARCH EXPERIENCE

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### **Member of the Research Group on Computational Languages | Since 2008**

Projects:

- Formulating a theory about interoperability among heterogeneous software systems, based on the Semat kernel
- A method for measuring software test team productivity

### **Member of the Research Group on Visual Environments of Applied Programming AVISPA | 2000 – 2003**

Projects:

- CRE2: application for reconfiguring a power distribution network
- Loss reduction in distribution networks using concurrent constraint programming
- PATHOS: Object Oriented concurrent constraint timetabling for real world cases

## LIFE INTERESTS

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- Spend time with my family
- Travel and visit new places
- Practice tennis
- Improve my English
- Try new food
- Read literature