Francisco A. Mayorga Cetina

Mathematics professional with a keen ability and willingness to learn.

I have over two years of experience in object-oriented programming (with .NET) and data analysis (with Python).

I am interested in software development, scientific research, and teaching mathematics, as well as digital design and illustration.

Professional Experience

Developer II (Senior .NET Developer)

August 2023 - Current

Sii Group Colombia (in the Thales project), *Bogotá D.C., Colombia.*

Responsible for analyzing, designing, and implementing new features for applications, as well as maintaining or enhancing existing ones, with a focus on optimization, security, and promoting good development practices.

Development Leader (Maintenance and support)

May 2023 – August 2023

Finanzas y Actuaría (Finac S.A.S), *Bogotá D.C., Colombia.*

Apart from the development tasks, I am in charge of monitoring the activities carried out by the team members and effectively planning and managing resources.

Development Professional II - Software Products

January 2023 - May 2023

Finanzas y Actuaría (Finac S.A.S), *Bogotá D.C., Colombia.*

Development Analyst

November 2020 – December 2022

Finanzas y Actuaría (Finac S.A.S), *Bogotá D.C., Colombia.*

Analysis, estimation, design and implementation of software development solutions (Winforms and ASP.NET) for the company's applications using .NET technologies (C#, F#, VB), SQL Server, SOAP Services (WCF), WPF, API Rest, DevExpress, etc.

Sergistas monitors group coordinator

June 2018 - January 2020

Sergio Arboleda University, *Bogotá D.C., Colombia.*

Selection process for new candidates, evaluation and semi-annual statistical analysis of the performance of the monitors, management of administrative and logistical processes.

Continuing Education Teacher: "Talentos matemáticos" Program

March 2019 - May 2019

Sergio Arboleda University, *Bogotá D.C., Colombia.*

Courses for students with high capacities for mathematics and technology.

Volunteer

February 2019 - November 2020

HAIKO Foundation, *Bogotá D.C., Colombia.*

Teaching accompaniment in discrete Mathematics and Computational Thinking courses.

Education

Bachelor of Mathematics

January 2014 - May 2020

Sergio Arboleda University , *Bogotá D.C., Colombia.*
Thesis (honorific): Characterizing Dual Graphs Associated to Triangulations of the Caracol Flow Polytope.

Another Certification Courses

- **HTML, JavaScript and Services**, *ITTalent, Bogotá D.C., Colombia.* August 2022.
- **UI/UX Cetification Course**, *Programming Hub, Online.* November 2021.
- **Python 3 Cetification Course**, *Programming Hub, Online.* August 2020.
- **Python Advanced Cetification Course**, *Programming Hub, Online.* August 2020.
- **Python Cetification Course**, *Programming Hub, Online.* August 2020.
- **Learn Python & Ethical hacking from scratch**, *Udemy, Online.* February 2020.

Publications

A unifying framework for the v-Tamari lattice and principal order ideals in Young's lattice

Submitted in February 2021

Combinatorica Journal, Springer.

On Framed Triangulations of Flow Polytopes, the v-Tamari Lattice and Young's Lattice

Submitted in December 2020

Bar Ilan University, Ramat Gan, Israel.
Séminaire Lotharingien de Combinatoire, Proceedings of FPSAC 2021, Art. 42, 12 pp.

Activities and events

Regional Programming Marathon (South America North) ICPC

November 2019   *Contestant, Grancolombian Polytechnic*

XXII Colombian Congress of Mathematics

June 2019   *Speaker, University of Cauca, Popayán*

Poster: Flow polytopes and triangulations of the Caracol polytope.

Cube Challenge Sergista

September 2018, April 2019   *Organizer, Sergio Arboleda University*

Skills

C#	90%	PYTHON	80%	PROBLEMS SOLVING	90%
F#	70%	SQL	75%		