Miajane Ranches

Mathematics Expert

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📅 24/11/1995

🪪 Profile

Miajane is a passionate mathematician and developer who blends theoretical knowledge with practical coding skills. Graduating with a solid foundation in mathematics in 2016, she has been translating that expertise into software development since then. Whether crafting efficient C++ and Python code, designing back-end systems for businesses, or processing statistical data for cutting-edge research, Miajane thrives on solving complex problems with precision and creativity. Her interests lie at the intersection of math and visuals, with experience in building game engines, developing data visualization tools, and simulating physics systems. Equally skilled in statistical analysis and database optimization, Miajane is a versatile problem-solver who ensures that systems are both efficient and insightful. Miajane's ultimate goal? To turn numbers into stories and formulas into functional, beautiful solutions.

🗄 Professional Experience

Self-employed   2019 - 2020

Software Developer
- Developed and maintained an IT system for stock inventory management, invoicing,and payroll processing for an auto parts retailer with eight stores.
- Implemented retail invoice and payroll reporting to the national tax authority via their API for several self-employed clients
- Executed the import of human-readable documents such as stock inventory, supplier documents, and similar into digital form. The technologies used were OCR and OpenCV

Polytechnic University of the Philippines, Department of Mathematics   2016 - 2019

Teaching Assistant, Lecturer, Researcher
- Taught courses covering mathematical analysis, geometry, topology, and mathematical.
- Provided statistical support to research projects in experimental physics.
- Coded simulations of physical systems such as rigid body motion and collisions.
- Participated in seminars and gave lectures covering knot theory, geometry.

Climate Engine   2021 - 2023

Senior Python Developer
- Built a framework for integrating geoscience algorithms and datasets from various platforms into a FastAPI app via Python plugins.
- Migrated dataset data from legacy code into the new database (STAC).

- Developed a testing framework for the new application.

🎓 Education

Polytechnic University of the Philippines 2012 – 2016

🧠 Skills

| Math | Python | Geometry and Trigonometry | Linear and Abstract Algebra |

| Mathematical Finance | Data Statistics | Calculus | Number Theory |

| Numerical Methods | Data Analysis | Algebra | Discrete Mathematics |

| Mathematical Modeling | Data Mining | Data Structure | Statistics and Probability |

| Real and Complex Analysis |