Martí Jiménez

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Experience

AI for high dimensional PDE modeling in oncology, Internship · 3 months, 2023
Laboratory of Pathogen and Host Immunity (LPHI), Montpellier, France
- Developed a n-Dimensional non-linear Partial Differential Equations (PDEs) solver framework employing Physics-Informed Neural Networks (PINNs), resulting in an exponential reduction of time complexity.
- Successfully solved a complex 4D non-linear PDE system that captures the evolution of melanoma tumor heterogeneity, utilizing the finite difference method in Julia.
- Researched and proposed 2 innovative methods to solve interdependent systems of non-linear PDEs with PINNs.

Projects

Numerical Solutions for Poisson's Equation · 1 months, 2023
- Developed numerical solver using Finite Difference Method for Poisson's Equation in 1D, 2D, and 3D with Dirichlet and Neumann boundary conditions. Implemented in Julia.

AI Software for French pronunciation assistance · 5 months, 2022
- Developed software that detects and evaluates pronunciation of consonant pairs in spoken French.
- Fully coded Neural Network using Python, obtained 100% detection accuracy after training and correct variation of the output based on pronunciation.

Spanish Word Guessing Game · 1 month, 2021
- Coded SEMANTIKA web game using Word2Vect with distance calculation between words.

Education

INSA (National Institute of Applied Science) 4th Year (Currently Taking) — **Toulouse, France**
Engineering Degree in Computer Science, top 10% ranking · 09/2020-Today

University of Twente, M1 Exchange Semester (Currently Taking) — **Enschede, Netherlands**
Machine Learning, Deep Learning, NLP, Information Retrieval, Big Data · 09/2023-Today

Courses

Harvard University | CS50's Introduction to Artificial Intelligence with Python · 08/2023-Today

Skills

Skills: Machine Learning, Applied Mathematics, Algorithm Design & Problem Solving, Research
Programming Languages: Julia, Python, C, Java, Matlab, x86 Assembly
Languages: Native languages: French, Spanish, Catalan. Advanced: English-C1(TOEIC 965/990)

Activities & Portfolio

Activities: 10 years of piano, singer and guitarist in a Rock Band, 7 years of running, 4 years of road cycling
Portfolio: https://marti2405.github.io/