Tomas Sbardelotto Dos Santos

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LinkedIn · Portfolio

Skills: Python · PyTorch · Scikit-Learn · Seaborn · TensorFlow · Pandas · SQL · Excel · R · JavaScript · React · Django
Languages: English (Native) · Portuguese (Native) · Spanish (Proficient)

Summary: I'm an aspiring data scientist with a strong foundation in mathematics and research experience. I possess skills in classical machine learning, Generative AI, and the necessary mathematical knowledge to support my work. I am eager to apply my academic and technical knowledge to solve real-world business problems and continuously seek opportunities for learning and development.

EXPERIENCE

Research Assistant/Co-Author **May 2022 - Present**
Mathematical Principles in Physics

- Conducted in-depth research and data analysis to support the development of accurate mathematical models.
- Gained valuable skills in explaining complex analytical physics concepts to a large audience.
- Collaborated with the professors and peer reviewers to refine and validate the manuscript.
- Applied advanced mathematical concepts to co-author a comprehensive textbook on mathematical modeling in physics with UCR professor Dr. Desai set for publication in 2025.
- Drafted and meticulously reviewed over 220 pages of technical content in LaTeX, ensuring precision and clarity in complex theoretical explanations.

Environmental Health and Safety Intern **Mar 2024 - Jun 2024**
UCR Environmental Health and Safety

- Collected, organized, and maintained detailed environmental health and safety data for UCR campus.
- Developed mobile trash identification and classification machine learning model using Yolov8.
- Developed and implemented quantitative analysis models and interactive dashboards to monitor key environmental metrics.
- Ensured compliance with the Construction Site Runoff Control Program, reducing potential environmental impact.
- Conducted comprehensive assessments of 80 storm drain system facilities to ensure operational efficiency and compliance with environmental regulations.

Undergraduate Researcher Mathematical Modeling **Dec 2023 - Jun 2024**
University of California, Riverside

- Developed and implemented advanced numerical methods in Python to calculate geodesic distances.
- Leveraged Monte Carlo techniques with NumPy for probability evaluation, reducing computation time by 85%.
- Conducted in-depth analysis of memory complexity to optimize the scalability of geodesic numerical analysis.
- Presented findings to a committee of professors and undergraduate students, effectively communicating analytical insights and advanced modeling techniques.

CLUBS & LEADERSHIP

Co-Founder / Director of Research and Development
AI Student Collective

- Co-Founder of the first Artificial Intelligence club at UCR, growing the membership to over 100 active members.
- Organized a Generative AI talk for 50+ UCR students, featuring a keynote speaker from Microsoft.
- Led three cohorts throughout 2023-2024 through data science workshops, providing practical experience to students.

Vice President of Learning Community
Sigma Phi Epsilon

- Played a pivotal role in receiving UCR Chapter of the Year and Highest GPA Awards 2022-2023.
- Raised cumulative Chapter GPA from 2.93 to 3.18 by hosting tutoring and education initiatives for fraternity members.
- Delegate for 2023 Sigep Grand Chapter Conclave voting and shaping the future Bylaws for the fraternity.

PROJECTS

Language Model
Pytorch
Developed a language model using PyTorch, trained on my LaTeX university assignments to better understand the development of LLMs.

Varadhan's Formula
Python, NumPy
Implemented Python based probabilistic method for calculating geodesics on manifolds. Using Monte Carlo methods using NumPy framework.

Income Prediction
Scikit-Learn, Pandas
This project aims to predict whether an individual's income exceeds $50K per year based on various demographic and employment-related features.

EDUCATION

University of California, Riverside
Bachelor of Science in Mathematics · GPA: 3.77
Chancellor's List · Dean's List