

Tomas Ruiz | Resume

Research Assistant

Status: Research Assistant at LMU Munich
Field: Machine Learning, Multi-modal AI
Techs: Python, R, SQL, C-sharp, PyTorch, React, AWS, Java

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Summary

Research assistant at the LMU Munich at the intersection of Machine Learning and Social Media, particularly on multi-modal ML. In previous jobs, I worked as a software engineer in different companies and start-ups.

Experience

Software Engineer - Allianz Global Investors - Munich, Germany 03/2023 - 05/2024

* [Python, C-sharp] Created C-sharp libraries to simulate the performance of trading strategies including options and derivatives. Wrote Python packages to orchestrate scenario simulations and interact with diverse data systems (REST, SQL databases).

Software Engineer - Preisenergie GmbH - Munich, Germany 03/2021 - 02/2023

* [R, Shiny, Python, React]: Developed pricing software for energy vendors, modeling energy prices and simulating pricing alternatives. Designed and implemented a price optimization algorithm using Quadratic Programming with 100,000 variables, resulting in a 20% improvement in Customer Lifetime Value. Created rich data-driven interfaces with interactive visualizations for flagship products.

Internship - Machine Learning - Amazon - Berlin, Germany 09/2017 - 02/2018

* [Java, AWS]: Developed a tool to benchmark advanced Multi-armed Bandit models for product recommendations. Released it on AWS, enabling internal Amazon and AWS teams to assess potential revenue increases based on their datasets.

Education

Research Assistant - Ludwig Maximilian University of Munich 06/2024 - Present

* I work with large multi-modal models (VLMs) to understand and classify content from social media (videos, images, audio, and text). Our project 'ToxicAIment' is funded by the Bavarian Research Institute for Digital Transformation (bidt).

Master of Science - Computer Science - Technical University of Munich 04/2018 - 02/2021

* My thesis was on the topic of Reinforcement Learning applied to robotics, and learning useful skills with weak supervision. I took courses such as Machine Learning, Deep Learning, Convex Optimization, and more.

Bachelor of Science - Engineering Science - Technical University of Munich 09/2013 - 08/2017

* My thesis was with BMW Group, where I worked with a Hadoop cluster and evaluated its query throughput and latency on challenging database queries. I took courses in computer science such as Algorithms and Data Structures, Databases, etc. And also classic engineering courses such as Partial Differential Equations, Thermodynamics, etc.