

# Luigi Noto

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## EDUCATION

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**New York University**, New York, NY Expected May 2023  
*MS in Data Science*, GPA: 4.0/4.0

- Relevant coursework: **Probability and Statistics**, Optimization and Linear Algebra, **Machine Learning**, **Big Data**, Natural Language Processing, Inference and Representation

**Bocconi University**, Milan, Italy July 2021  
*BS in Economics, Management and Computer Science*, Grade: 110/110 cum laude

- Relevant coursework: Advanced Mathematics and Statistics, **Computer Programming**, Machine Learning, Decision and Game Theory, Big Data and Databases
- Thesis: *Bayesian Learning: Clustering with the Dirichlet Process Mixture Model*

## EXPERIENCE

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**Zillow / New York University**, New York, NY September 2022 - Present  
Data Science Capstone Project

- Currently working on improving Zillow search engine for personalized home search experience.
- Implementing **neural re-ranking** models (SetRank, PRM) to increase user engagement.

**New York University**, New York, NY June 2022 - Present  
Graduate Research Assistant - Agile Robotics and Perception Lab

- Analyzed quadrotor trajectory data with **dimensionality reduction** techniques (t-SNE).
- Developing **meta-learning** methods to improve online learning of quadrotor system dynamics.

**Bocconi University**, Milan, Italy March 2021 - June 2021  
Undergraduate Research Assistant

- Performed literature review and implemented computational algorithms about discrete space stochastic processes and their application to Monte Carlo methods.
- Contributed to improvement of teaching material for bachelor class in **applied stochastic processes**.

**Barclays**, Knutsford, UK July 2020 - August 2020  
Technology Data Analyst Intern

- Consolidated and **analyzed data** about total cost of ownership and technical debt of the technology infrastructure to highlight trends and cost optimization opportunities, using SQL and data analysis software.
- Implemented **data integrity checks** and automated **data concatenation** tasks with Excel VBA macros and Python, saving 3-5 hours of manual work per week.

## SELECTED PROJECTS

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**MovieLens Recommender System.** Built and evaluated a **collaborative filtering recommender system** with Spark alternating least squares (ALS) implementation using the MovieLens dataset. Implemented **accelerated search** at query time using Spotify's Annoy fast search library, with a 15x decrease in query time.

**Loan Default Prediction.** Trained and evaluated **classification models** to predict the default probability on a loan with data about US small businesses (XGBoost with 93% accuracy, 93% sensitivity, 93% specificity on test).

**Analysis of Weather Data in Australia.** Performed **hypothesis testing** (resampling methods) on temperature data to investigate climate change. Trained and evaluated **classification models** to predict next day rain occurrence (XGBoost with 0.90 test AUC and 0.75 test average precision score).

## SKILLS

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<b>Computer</b>	Advanced Knowledge: <b>Python</b> (Numpy, Pandas, SciPy, Matplotlib, Scikit-learn, PyTorch) Very Good Knowledge: <b>SQL</b> , R, Latex, MS Excel Intermediate Knowledge: <b>Spark</b> (PySpark), Hadoop, Git
<b>Language</b>	Italian (Native), English (Fluent), French (Basic)