

SIMRAT KAUR KHALSA

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 Marseille, France

EDUCATION

Aix Marseille University

MSc Econometrics and Data Science

Marseille, France

September 2026 – Present

- **Relevant Courses:** Time Series Analysis (Econometrics) and Machine Learning. Exposure to market and real world projects via Hackathons and certificates.
- Double Degree Course, providing exposure to different markets, cultures and education.

University of Kent

MSc Economics

Canterbury, UK

September 2025 – September 2026

On Track to First Class

- **Relevant Courses:** Financial Economics, Econometrics

Virginia Tech

B.A Economics

Blacksburg, US

August 2019 – December 2023

- **Relevant Courses:** Machine Learning, Data Analytics, Macroeconomics, Data Structures and Algorithms

PROJECTS & OUTSIDE EXPERIENCE

Marseille Urban Affordability & Opportunity Analysis | Machine Learning Project — In Progress

Python, Pandas, Scikit-learn, GeoPandas, Data Visualization

- Developing a machine learning model to analyse **housing affordability and neighbourhood-level economic opportunity across Marseille**, combining rental, transport, employment, and socioeconomic data.
- Building a data pipeline to clean, merge, and analyse multiple public datasets and engineer indicators measuring **affordability, accessibility, and local opportunity**.
- Applying predictive modelling and geospatial analysis to identify factors associated with rental prices and compare neighbourhoods based on cost and accessibility.
- Designing an interactive **decision-support tool** to help students and young professionals identify suitable areas based on individual budget and lifestyle constraints.

Airbnb Listing Price Prediction | June 2025

Python, Pandas, NumPy, Scikit-learn, Regression

- Developed a **machine learning regression pipeline** to predict Airbnb listing prices using property and listing characteristics.
- Performed **data cleaning, exploratory analysis and feature engineering**, and trained and evaluated regression models using Scikit-learn to identify key drivers of property prices.

Customer Churn Prediction – Telecom Industry | May 2025

Python, Pandas, Scikit-learn, Classification

- Built a **customer churn prediction model** using Logistic Regression, Decision Trees and Random Forests to identify customers at risk of leaving a telecom provider.
- Conducted **exploratory data analysis (EDA), feature preprocessing and model comparison**, evaluating performance using accuracy, precision and recall to assess predictive effectiveness.

PROFESSIONAL EXPERIENCE

SaNDAl Cares

Program Manager

Remote

June 2025 - February 2026

- **Supervised** healthcare audit assignments for **70+ scholars** from over **5 different continents** and various backgrounds.
- Researched multiple **AI agents**, and created powerpoints and educational videos for scholars.
- **Collaborated** directly with the CEO to devise a roadmap for **business scaling**.

Virginia Tech

Research Assistant

Blacksburg, US

May 2023 – June 2024

- Analyzed data, developed mathematical models, and simulated models in **MATLAB** to study mosquito-borne diseases.
- Adeptly explained why the data provided was useful in the context of the biological problems that were studied in a group with diverse backgrounds.

PIANALYTIX Studio

Full Stack Developer

Remote

May 2021 – August 2021

- Developed the front-end of an e-learning platform, **Renaissance.edu**, using **JavaScript, HTML, and CSS**, creating responsive and user-friendly web pages.
- Collaborated with an international team to coordinate development tasks, communicate project requirements, and support timely delivery.
- Integrated **MongoDB** to store and manage user information, supporting the platform's back-end data functionality.

SKILLS & INTERESTS

Programming & Databases: Python (Pandas, NumPy, Scikit-learn), SQL, Stata, MATLAB, MongoDB, JavaScript, HTML/CSS

Machine Learning & Analytics: Regression, Classification, Random Forest, XGBoost, NLP, TF-IDF, Word2Vec, Feature Engineering, Exploratory Data Analysis (EDA), Model Evaluation

Econometrics & Statistics: OLS, Panel Data, Time-Series Analysis, Hypothesis Testing, Instrumental Variables (2SLS)

CERTIFICATIONS

BCG Introduction to Strategy Consulting — Forge

- Completed a **strategy consulting simulation** applying structured **problem-solving, business analysis, strategic thinking, and data-driven decision-making** to develop and **communicate** actionable recommendations.

Financial Analysis Prodegree — Imarticus Learning, in association with KPMG in India

- Completed intensive training in **financial modelling, forecasting, valuation (DCF/DDM/FCFE), financial statement analysis, equity research, M&A, corporate strategy, and Excel**, applying concepts through practical company analysis and valuation case studies.

Data Science — Internshala Trainings

- Developed practical skills in **Python, data preprocessing, EDA, visualization, statistical analysis, and machine learning**, applying end-to-end data science workflows to real-world datasets and predictive modelling tasks.