# Bassel Farhat

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## RESEARCH EXPERIENCE

**Master thesis under the supervision of Prof. Dr. Robi Banerjee**　　　　**Hamburg, Germany**
*Density Perturbation from Primordial Magnetic Fields*　　　　*July 2020 - August 2021*
- Ran and maintained numerical simulations on multiple HPC cluster.
- Studied, in depth, the evolution of all the physical parameters across different cosmological regimes.
- Studied the evolution, strengths and distribution of density fluctuations.
- Plotted the output of the simulations using Python libraries.

**Research project under the supervision of Prof. Dr. Robi Banerjee**　　　　**Hamburg, Germany**
*Performing Initial simulations for the thesis*　　　　*March 2020 - July 2020*
- Ran numerical simulations on HPC cluster.
- Studied the effect of changing different initial conditions on the runs.

## TEACHING EXPERIENCE

**Student Assistant**　　　　**Hamburg, Germany**
*Introduction to Astronomy*　　　　*April 2020 - August 2021*
- Aided in multiple courses for 3 semesters.
- Acted as intermediary between the students and the course supervisors.
- Monitored the grades using Excel spreadsheets.

## EDUCATION

**University of Hamburg**　　　　**Hamburg, Germany**
*Master of Science in Physics*　　　　*August 2021*
- Main interest lied in the theoretical studies of stellar evolution and star formation.
- Took part of experimental courses such as applications of general relativity and radio astronomy.

**Lebanese University - Faculty of Sciences**　　　　**Fanar, Lebanon**
*Bachelor of Science in Physics*　　　　*June 2017*
- Covered subjects were mechanics, electromagnetisim, and vaste range of general Physics.
- Study of coding languages such as C and Matlab.
- Main intersets lied in nuclear physics and thermodynamics.

## PROGRAMMING SKILLS

- Python
- C
- Matlab
- Bash
- Javascript
- Cloud Computing
- Data Science
- Machine Learning
- Version Control

## PROJECTS

### Data Analysis

**Titanic Survivability Rate Study k**
- Used Random Forest as best data fit.

**Monitoring of Houses Pricing k**
- Utilized model stacking to find the best fit.

**Sales Study using Plotly.Express** k
- Data preprocessing and visualization.

## Other
**Social Media Website** 
- Utilized React and Material UI for creating the frontend of the website.
- Created a custom API using Express and NodeJS.
- Implemented instantaneous messaging using SocketIO.
- Storing and Maintaining the data using MongoDB.

# CERTIFICATES

- Python for Data Science and Machine Learning Bootcamp 
- Machine Learning with Python 
- Responsive Web Design 

# LANGUAGES

- Arabic: **Native**
- French: **Bilingual**
- English: **Advanced**
- German: **Advanced**

# REFERENCES

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