

# Melody Sylvestre


## Full stack software developer


I am a full-stack developer with a passion for problem solving and exploring new horizons. After spending a long time studying other planets' climates, and a brief interlude in data analysis for international trade, I realised how much I love coding and decided to centre my career on software development. When I'm not in front of a computer, I'm probably making clothes or singing with my a cappella choir.

 Bristol

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## Projects

As a graduate of the iO Academy full stack software development course, I have worked on several individual and team projects. You will find a small selection of my projects below and a complete list in my portfolio website.

### Food delivery app

We developed the frontend for a food delivery app using Bootstrap CSS and React Javascript. I worked on the feature that allows diners to choose a restaurant, fetches its menu from a supplied API and displays it on the webpage.

[Github](#)   [Live](#)

### Project Management API

We created a backend API for a project management app with PHP and MySQL. We used OOP to create endpoints following the SOLID principles for the application architecture, allowing users to display all the projects from the database or a specific project. I worked on the class containing the details of a project, unit testing and error handling with exceptions.

[Github](#)   [Live](#)

## Experience

MARCH 2022 - DECEMBER 2022

### Operational Researcher - DEFRA (*Civil Service*), Bristol

I analysed data to inform the UK's international trade and borders policy. I developed an R app to help analysts and policy officers to easily interrogate large datasets about UK imports and tariffs. I collaborated with other teams and other government departments to gather data to address policy questions. I also presented my results in summaries accessible for non-specialists.

NOVEMBER 2015 - FEBRUARY 2022

### Postdoctoral research associate in astrophysics - *University of Bristol, Bristol*

I studied the climate of Titan (Saturn's largest moon) using existing space mission data and new observations. I designed and led an observation project which successfully competed against other proposals and was awarded an all-expenses paid observation trip to the VLT, a premier astronomical observatory in Chile. I developed a bespoke Python package for the cleaning and analysis of this new type of astronomical data. I presented my results to other researchers through talks at international conferences and scientific peer-reviewed publications.

OCTOBER 2012 - SEPTEMBER 2015

### **PhD Student in astrophysics** - *LESIA/University Pierre et Marie Curie, Paris, France*

I analysed space mission data about Saturn's atmosphere, using Python and Fortran. I also developed Fortran numerical code for a new high-performance climate model of Saturn. I was also a teaching assistant: I mainly supervised practicals about Unix and programming in C and Fortran.

## **Professional Certification**

FEBRUARY 2023

### **Agile Professional Certification** - *iO Academy*

## **Education**

OCTOBER 2012 - SEPTEMBER 2015

### **PhD in Astronomy and Astrophysics** - *Summa cum Laude*

University Pierre et Marie Curie (now Sorbonne Université), Paris, France

SEPTEMBER 2011 - JUNE 2012

### **Master's degree in Geosciences and Planetary Science** - *77.5%, with High Honours*

University Pierre et Marie Curie, Paris, France

SEPTEMBER 2009 - JUNE 2011

### **Master's degree in Astronomy and Astrophysics** - *65.5%, with Honours*

University Pierre et Marie Curie, Paris, France

SEPTEMBER 2006 - JUNE 2009

### **Bachelor's degree in Physics** - *with Honours*

University Pierre et Marie Curie, Paris, France

## **Interests and Voluntary Commitments**

2011 - 2014 and 2018- 2019

### **Astrophysics Outreach festival co-founder**, *De la Plage aux Étoiles, France*

I co-founded and organised an annual science outreach festival (up to 1000 visitors) for 6 years. I successfully applied for grants (€2,500) from the local county council and the French Astronomy and Astrophysics Society. I gave public talks and guided tours to a broad audience (children, adults with little background in astrophysics, amateur astronomers). I also invited guest speakers and organised their accommodation.

I also hosted various science outreach events organised by different institutions (e.g., University of Bristol, We The Curious (Bristol), Paris Observatory) by giving public talks and guided tours.