Melody Sylvestre

📍 Bristol

✉️ melody.sylvestre@outlook.com

🌐 melody-sylvestre.github.io

☎️ 07762 287225

🔗 linkedin.com/in/melody-sylvestre

Full-stack software developer

I am a former astrophysicist and I have decided to take my passion for problem-solving and coding into software development. Throughout my research career, I have gained strong analytical thinking and self-learning skills, along with 10 years of experience in coding in Python. I have regularly used my communication skills to convey complex technical concepts to diverse audiences in various settings such as scientific conferences or public talks. After having furthered my education by completing a full-stack coding bootcamp, I am eager to take on a new role as a full-stack software developer.

Tech skills

- ➤ JavaScript
- ➤ TypeScript
- ➤ PHP
- ➤ Python
- ➤ C
- ➤ HTML
- ➤ CSS
- ➤ SCSS
- ➤ React.JS
- ➤ Node.js
- ➤ MySQL
- ➤ MongoDB
- ➤ REST APIs
- ➤ Git
- ➤ Agile

Employment and Key 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 improved my team's ability to address policy questions by developing an R app to interrogate large datasets about UK imports and tariffs easily. I delivered detailed studies about critical issues around UK imports by analysing data and leveraging collaboration with other DEFRA teams and government departments. I facilitated information exchange by chairing a cross-departmental working group. I also presented my results in summaries accessible to 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). I created a novel way to observe Titan: I designed and led an observation project at the VLT (a premier astronomical observatory in Chile). I then developed a bespoke Python package for cleaning and analysing this new type of astronomical data. I improved our understanding of Titan's atmosphere by analysing space mission data with specialist software on Linux servers. I presented my results to other researchers through 10 seminars and talks at international conferences and 12 scientific peer-reviewed publications.

An article I wrote about Titan   Google Scholar profile

OCTOBER 2012 - SEPTEMBER 2015

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

I improved our knowledge of Saturn's climate by analysing space mission data using Python and Fortran. I contributed to the development of a new high-performance climate model of Saturn by implementing various functions in Fortran. I ran simulations on Linux servers and collaborated internationally with other researchers. As a teaching assistant, I supervised practicals about Unix and programming in C and Fortran for 2 years.

An article I wrote about Saturn   Google Scholar profile

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 gave 6 public talks and numerous guided tours to a broad audience (children, adults with little background in astrophysics, and amateur astronomers). I supported the festival's growth by successfully applying for grants (€2,500) from the local county council and the French Astronomy and Astrophysics Society, which enabled us to invite more public speakers.

Software Projects

As a graduate of iO Academy (one of the top coding bootcamps in the world), I have worked on several individual and team projects. You will find a small selection of my projects below and a complete list on my portfolio website.

Company website

I created a website for a fictional company, with a dynamic homepage, an "About us" page and a contact form. I created the different pages and their components with React.JS and SCSS. For the backend, I used the PHP framework Slim to implement a REST API, in order to either fetch content from the MySQL database for the homepage or save the answers to the contact form in the database.

Github   Live

Pizza Toppings Rater

We used a MERN stack to create a website where users can choose their favourite topping among 2 randomly selected toppings or see the top 10 toppings from all the votes. On the frontend, I created the cards in which the toppings are displayed, using React.JS, Typescript and SCSS. I used Node.js, Express and Typescript on the backend to implement the endpoint that saves users' votes in the MongoDB database.

Github   Live

Professional Certification

JANUARY 2023 - APRIL 2023

Full-Stack Track Coding Bootcamp – *iO Academy*

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