



# ALFRED RENN

## SOFTWARE ENGINEER

View online! <https://cv.alifeee.co.uk>

### ABOUT

Hi! I'm Alfred: physics graduate, toki pona speaker, and software engineer. I love to make beautiful things with code (mainly using HTML/CSS/JavaScript and Python), including websites, apps, and graphs. With all my work I create good quality, robust, and well-tested code, as well as powerful automation and well-organised git repositories, empowering collaboration. Do check out my website and GitHub!

### WORK EXPERIENCE

#### Freelance Software Engineer

<https://github.com/alifeee>

March 2023 - Present

#### Highlights

- ▶ Co-maintaining **gspreed**, an open-source **Python** API for Google Sheets with over 8 million downloads per month, demanding a high level of future-planning and project management.
- ▶ Developed new code and tests in **JavaScript** for a new expansion for **keyteki**, an online card game, working in a fast-paced and highly collaborative environment ahead of the new expansion's release.
- ▶ Developed a mod for the video game Factorio in **Lua**, involving a low-level partner-plugin for the voice chat client Mumble, written in **C**. Released on Windows and Linux.
- ▶ Interfaced with an electronic dot-matrix display discarded from a bus station, using **C**, requiring an involved knowledge of electronics and low-level communication protocols.

#### ByteSnap Design

<https://www.bytesnap.com/>

August 2022 - March 2023

#### Software Engineer

#### Highlights

- ▶ Utilised **Vue** and **TypeScript** to create an intuitive, user-friendly web application, using robust design patterns and best practices to ensure optimal functionality and user experience.
- ▶ Designed and developed a responsive, feature-rich web application using **Flutter** and **Dart**, incorporating a range of views and user-friendly interfaces for maximum ease of use.
- ▶ Employed **WPF** and **C#** to create a high-performance application, using **SQL** and an MVC architecture to facilitate the viewing, manipulation, and analysis of data.

### CONTACT



Sheffield, UK



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<https://alifeee.co.uk>



#### Blog

<https://blog.alifeee.co.uk>



#### LinkedIn

[alfredrenn](#)



#### GitHub

[alifeee](#)

### EDUCATION

2018  
2022

#### Durham University

<https://www.durham.ac.uk/>

MPhys Physics

Grade: 1st (77%)

#### Courses

- ▶ Masters Project: Using Machine Learning to Optimise Quantum Optics Experiments

2011  
2018

#### Cottingham High School and Sixth Form College

<https://www.cottinghamhigh.net/>

A Level, GCSE

Grade: A\* A\* A\* (A Level), 6A\*, 4A, 2D\* (GCSE)

#### Courses

- ▶ A\* Physics
- ▶ A\* Mathematics
- ▶ A\* Further Mathematics
- ▶ (GCSE) A\* Mathematics, A English
- ▶ (GCSE) + 5A\*, 3A, 2 Dist\*

- ▶ Streamlined the deployment process of complex code with multiple dependencies, using **Docker** and **GitLab** CI to optimise the development process and improve productivity.

## Durham University Physics Department

<https://www.dur.ac.uk/qim/>

June 2021 - August 2021

## Solar Physics Research Student

Researching novel telescope imaging techniques using quantum gases

### Highlights

- ▶ Developed robust code with **Python** for fabricating and analysing images from a solar telescope.
- ▶ Performed deep literature review to justify techniques used in the creation of said telescope.
- ▶ Discussed and acted upon desires and needs of telescope engineers, theorists, and observationalists.

## Viper RF

<https://www.viper-rf.com/>

August 2019 - September 2019

## Design Engineer Intern

Programmed and debugged a real-time optimisation algorithm on a microcontroller with **\*\*C\*\***. This was used to minimise power losses for a microwave generator, to be used in an ion thruster for space satellites, improving both industry knowledge and personal skills.

## AWARDS

July  
2019

### Durham University

🏆 Florence Nightingale Award for Graphical Excellence

Awarded for the optimal presentation of quantitative data to illustrate a Helmholtz coil. Used Python for graphing.

## VOLUNTEER

## gsread - Simple interface for working with Google Sheets

<https://github.com/burnash/gspread/>

June 2023 - Present

## Open-source Maintainer

Maintaining an open-source Python library for interacting with Google Sheets, including adding new features, fixing bugs, and responding to user issues.

## British Heart Foundation & Barnado's

<https://www.bhf.org.uk/>

March 2023 - Present

## Electrical Tester

Testing electrical equipment for sale in charity shops.

## SKILLS

### Data Analysis

Python

Statistics

Jupyter

### Web Development

HTML

CSS

JavaScript

Vue

### Git/Project Management

Pull requests

Git issues

Open source maintainer

GitHub Actions

### Great development practises

Test-Driven Development

API Design

Reliable documentation

### DevOps

Docker

Git

Continuous Integration

Continuous Deployment

## INTERESTS

### Electronics

PC building

Arduino (microcontroller and circuit boards)

### Open-source

Contributing to open-source projects

## REFERENCES

[... W]e were very impressed with [Alfred]'s outstanding contribution to our business in a relatively short period. He demonstrated extremely high intelligence, organisation, good technical communication skills, work ethic, and a positive attitude. [Available on request.]  
— Jim Mayock, Viper RF. Matthew O'Keefe, PhD, MBA, Viper RF.

"This is very neat thank you for this contribution."  
— Alexandre Lavigne, open-source pull request.

"Thanks @strib and. @alifeee - very good team work!!!!"  
— Romano Silva, open-source pull request.

[Available on request.]  
— Prof. Ifan Hughes, Durham University

[Available on request.]  
— Graeme Wintle, ByteSnap Design