

DeepMind cover letter

Samuel Overington | ID 170431121

DeepMind

SELF INTRODUCTION

I am writing to express my interest in the Researching Engineering Internship programme you are running at DeepMind. I am a second year undergraduate student in Theoretical Physics at Queen Mary, University of London, with a passion for creativity, science and software engineering. I have a diverse history of experience, I have been a participant and sometimes lead projects ranging from a diverse ... from art, maths, science and software engineering. I am interested researching fundamental ideas, uncovering ways in which ... I use Vim.

I have used git in my working flow. I am confident using the command line for many tasks, and primarily I use Vim as my text editor.

I found your internship through your website.

Some important things to talk about here:

Yobota internship:

During the 2018 Summer break, I undertook a summer internship with Yobota; a Fintech startup based in London, who have created a lean banking platform. I was delegated to the API / integrations team, and given the exploratory project of creating an internal client for payment initiations using the OpenBanking platform. The client that I wrote had to conform to the OpenBanking standards, and employed technologies such as OAuth Bearer tokens, Test driven development life, Continuous Integration using Jenkins, Python / Django / DRF.

As part of team building, I gave a company presentation on OpenBanking standards. Every day I took part in a morning standup, and weekly sprint planning meetings, where I had to set my own goals, and give updates as to the progress of my integration.

Science / Maths research

Throughout my degree, I have been learning mathematical techniques to interrogate, model and analyse data from physical systems. With each degree module we are introduced to a new area of maths and physics, and given a toolset which can be used in exploring various techniques in mathematics, computing and physical theories in how to use these systems to explore the implication of certain aspects of the physical system, and how these data relate to mathematical theories might work.

Of note, I am enjoying learning to use linear algebra,

calculus, differential equations My course involves many mathematical modules. - Introduction to scientific computing (Python). - exploring linear regression and curve fitting algorithms, fitting functions to scientific data points - project analysing the LIGO open dataset, using Fourier transform to clean a dataset, - In first year, I took part in a collaborative group project using Python and Matplotlib to investigate financial data sourced from the World Bank, collating multiple years of financial information about specific and grouped countries, then analysing and

normalising for inflation the results to plot using Matplotlib's PyPlot, the movement of variables throughout a set time period in specific and grouped countries.

Web development experience.

Before commencing my undergraduate study at Queen Mary, I worked as a freelance web developer, gaining experience in PHP, JavaScript, HTML, CSS. Some relevant projects during my freelance time, that I have been involved in: - Being part of a team building an online learning platform with e-comms, on an AWS EC2 instance. - WordPress plugin and theme developer - coding in PHP for front end as well as server side tasks.

My interest in DeepMind;

I am interested in creating models that will help the betterment of scientific research. I believe that machine learning is, and will continue to be an important aide for scientists, enabling them to look deeper into data heavy research, **machine learning** to recognise patterns and behaviours that might otherwise go unnoticed. My career goals are to be able to use the scientific method to build models. In order for machine learning to be able work with these data, the algorithms must first be written... As part of a larger understanding of what intelligence is, and learning models.

using ML libraries to enable this. I found that through exploring the LIGO dataset,

I am interested in the

Sign off

I believe that exploration into linear curve fitting algorithms, writing an restful API client

I believe that with my background in coding, both in PHP web development, system administration, and now data analysis with python, I would be an ideal candidate for undertaking this internship, and that I would be able to add much in collaborating with a team of like minded individuals.