



# Dr Jonathan Beaumont MEng PhD

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## Profile

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I am a senior software engineer, with a historic focus on backend development, primarily working in Python with Django and the Django Rest Framework. I strive to create clean, RESTful APIs, and produce efficient code for database interactions and services.

I have a keen interest in software and systems, and am always interested in learning more of the stack, and new frameworks, languages and technologies. I like to use these in personal coding and electronics projects and use the knowledge gained to inform my work.

I enjoy friendly relationships with colleagues to help foster trust and open-dialogue to learn from each other, solve problems together and collectively work for the common goal of the best quality product.

## Work Experience

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**May 2021 - Present**

### Senior Software Engineer (Backend), Qogita ([qogita.com](http://qogita.com))

- A B2B wholesale platform, helping buyers find the best deals on a wide range of products from a large collection of suppliers from across Europe and the UK.
- Working in a start-up environment, was part of a small team which rebuilt Qogita's website from scratch, enhancing its online presence.
- Developed RESTful API using Django to manage public API for buyers, providing real-time product and supplier updates.
- Collaborated with cross-functional teams to ensure up-to-date supplier offers and fresh product information on the website.
- Participated and led Agile ceremonies in a collaborative work environment.
- Integrated Data Science and Data Engineering services to enrich backend data for the website.
- Led guilds to enhance coordination among cross-functional teams during scaling.

**April 2018 - May 2021**

### Postdoc Research Associate, Imperial College London

- Working on a project, developing applications for a novel event-driven parallel system architecture featuring thousands of hyper-threaded RISC-V cores embedded in a fast communications infrastructure ([poets-project.org](http://poets-project.org)).
- Researching and developing a Dissipative Particle Dynamics simulator for this architecture, which models the behaviours of fluids at a molecular level. This achieves 100x speedup over a serial form of this simulator.

**September 2017 – March 2018**

### Guest Relations Staff Member, The O2, London

- Working in a large team at The O2 and assisting with the security staff to ensure customers have a safe, secure and enjoyable event.

**September 2014 - July 2017**

### Postgraduate Demonstrator, Newcastle University

- Designed introductory C-programming practicals for first year undergraduate students, leading demonstrators and arranging marking of code and reports.
- Other modules worked on include building a basic microprocessor system, and Finite State Machine theory using FPGAs

## Core Skills

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- Professional experience in **Python** (Django, REST Framework, Pandas), **C++**, **C**.
- Familiar with SQL, Java, TypeScript, JavaScript, AWS and Assembly.
- Version control, CI/CD (Git, GitHub: [github.com/jrbeaumont](https://github.com/jrbeaumont)).
- Working within agile frameworks.
- Scientific/technical research and communication skills through writing papers and presentations.

## Education

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September 2014 -  
January 2018

### PhD Computer Engineering, Newcastle University

#### Research:

- My main research interest is in asynchronous methods for software and design, verification properties and synthesis of asynchronous circuits.
- My project involved developing a domain-specific language for specifying asynchronous circuits through behaviours. This is called *Concepts*. I developed a tool called *Plato* for translating this into a synthesizable form ([github.com/tuura/plato](https://github.com/tuura/plato)).
- I learned several forms of graphical models, such as Finite State Machines, and Petri Nets which are used for specifying asynchronous circuits.

#### Other projects:

- I worked as part of the software development team on several software tools. We work together and aim to integrate them to streamline their usage.
- I aided the development of a process-mining tool *pgminer*, featuring a Haskell library for process mining, and automated concurrency extraction ([github.com/tuura/process-mining](https://github.com/tuura/process-mining)).
- This team develops *Workcraft*, a Java software suite which features the tools developed by members of the team integrated as plug-ins. These all aid in the design of asynchronous circuits, generating models which are verified and synthesized. During my time on the team, I developed features, integrated *Plato* and was the main macOS developer ([workcraft.org](http://workcraft.org)).

September 2010 -  
July 2014

### Electronic and Computer Engineering MEng, Newcastle University

#### First Class Honours

This degree included both computer science and electronics modules and provided opportunities for projects to use learned skills from both disciplines.

#### Relevant modules:

- Algorithm Design and Analysis
- Understanding Concurrency
- Computer Systems and Microprocessors
- Embedded Systems

#### Projects:

- Team project to design and build a maze navigating robot. I oversaw the control system, taking input from sensors to determine directions, mapping the maze, and controlling the motors to move the robot.
- I designed and built a device which recorded the output from an electronic drum kit, consisting of programmed PICs and a custom microprocessor, and a PC application which accurately played back recordings.

September 2008 -  
July 2010

### Huddersfield Grammar School & Greenhead College, Huddersfield

10 GCSEs, 3 A-Levels, 1 AS-Level

## Interests

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In my spare time I like to work on personal code and electronics projects, to learn new skills and make things that interest me, such as an LED matrix smart clock, or can be useful, such as a Raspberry Pi NAS.

I also enjoy playing video games, both new and older games, and I keep a small collection of old consoles to tinker with and mod.

I enjoy theatre, particularly musical theatre, and I try to see new and interesting plays whenever possible.

A season ticket holder for Crystal Palace FC, I watch as many home matches at Selhurst Park as I can.

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References available on request