BENJAMIN HODGSON

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EXPERIENCE

Senior Software Developer, Stack Overflow *2016–*

Stack Overflow is the world's largest repository of programming knowledge and community of software developers. I work on Stack Overflow's Talent product, a developer hiring platform.

- I've served as the lead developer on a number of large and challenging projects, involving complex implementation work, intra- and inter-team project management, and collaboration with designers, product managers, and data scientists. These include:
  - A major redesign of Stack Overflow's Jobs product, resulting in a 35% increase in job views and a 9% increase in job applications.
  - New reporting tools to give employers insight into the performance of their hiring efforts.
  - Recommended Candidates, a feature I devised and pitched, which intelligently matches candidates to job listings.
- I'm a consistent advocate for performance, scalability, maintenance, and resolving technical debt.
  - I designed, implemented, and delivered major architectural improvements to Stack Overflow's job search algorithm. This area includes a parser, analysers, and a code generator for our advanced search syntax, as well as a hand-tuned in-memory search index. My work resulted in a 100-fold performance improvement to the core algorithm, allowing the product to scale to millions of jobs and enabling syndication partnerships with other major job boards.
  - I designed, pitched, implemented and documented a number of major simplifications to Talent's 10-year-old data model.
  - I led the team in transitioning the entire front-end codebase to TypeScript.
- As the Talent team's Tech Lead, I work especially closely with product managers and designers to manage the team's work backlog and identify potential issues in advance. I am also the point of contact for other teams and departments when coordinating cross-team projects.
- I'm a dedicated mentor and teacher of junior teammates. I mentored a developer apprentice in her first engineering job, providing guidance — both technical and pastoral — along the path to becoming a productive and skilled developer.
- Working with management and HR, I helped to develop and document interview questions and conduct interviews for a variety of roles across the Product & Engineering department.

Software Developer, Huddle *2013-2016*

Huddle is a secure collaboration and filesharing system for enterprise and government.

- With two teammates, I delivered a months-long strategic technical project, extracting Huddle's key file-sharing component from the surrounding legacy application into an autonomous microservice. This allowed us subsequently to deliver a 10-fold performance gain over two months for the product's critical flows.
- During 20% time, I designed and implemented several innovative features for Huddle, including a project entitled Annotations which won the prize for best Hackathon pitch.
- I wrote posts for Huddle's engineering blog and gave talks to the development department.

- I contributed a net negative number of lines to Huddle's codebase.

Research Assistant, University of Oxford Physics Department   *Summer 2012*

- I developed an application for controlling scientific instruments and analysing data.

- I worked with users (scientists) to understand requirements and design an intuitive interface.

Research Assistant, National Physical Laboratory, Teddington   *2009–2012*

- My work in the ultrasonics department involved research into cavitation, food processing, instrument validation, and novel measurement techniques.

- I developed image analysis software which remained in use until the project's completion.

EXTRA-CURRICULAR

I'm the author of several high-quality open source libraries, available on my GitHub profile (https://github.com/benjamin-hodgson):

- [**Pidgin**](), a functional parsing library with a focus on performance.

- [**Sawmill**](), a library of abstract tools for working with trees.

- [**Eighty**](), an HTML generation library.

I've also contributed to third-party open source projects, including performance and documentation fixes in the .NET Framework.

My personal website, https://www.benjamin.pizza, features posts about technical matters. Highlights include:

- [*Write You A Prolog*](), a programming language implementation tutorial.

- [*Recursion Without Recursion*](), detailing Sawmill's API and design.

- [*Rewriting IRewritable*](), detailing Sawmill's internal implementation.

I'm a high-reputation Stack Overflow user with over 400 posts, mainly in the Haskell tag.

I love to learn programming languages, especially those which make you think differently about software. I've written personal projects using Haskell, Rust, Scala, Prolog, Agda, Coq, and Idris.

EDUCATION

St. Catherine's College, University of Oxford   *2009–2013*

- MPhys Physics. Upper Second class honours.

- I received the Neville Robinson Prize for performance in final examinations.

Tiffin Boys' School, Kingston Upon Thames   *2002–2009*

- A levels: Physics A, Maths A, Music A.

References available upon request.