

# James Smith

I am a senior technologist with experience in leading innovative development teams across many languages and technologies. I specialise in team building and leadership, client and developer relations, and software architecture, design and development. I am a passionate believer in the power of the web and open collaboration to change the world for the better.

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**Leadership** Agile team leadership Open source collaboration Scrum Kanban Strategy Mentoring Public speaking Training Technical sales Client relations Budgeting Proposal writing

**Technologies** Open data API design Information architecture Virtual reality 3D graphics Machine learning Computer vision Blockchain

**Languages** Ruby JavaScript C++ C Java C# Python React Native Objective C Rust CoffeeScript PHP

**Web** Rails Sinatra Node.js Express HTML CSS Sass jQuery Jekyll OpenAPI / Swagger XML VRML WebGL three.js

**Design** Serverless Microservices HTTP REST HATEOAS SOA OOP UML Design patterns

**Platforms** Linux OSX Windows iOS Heroku AWS Google Cloud OpenStack

**Databases** MySQL MariaDB SQLite PostgreSQL PostGIS Redis MongoDB Elasticsearch

**Tooling** Git GitHub Subversion Kubernetes Chef RVM rbenv Passenger Apache nginx make JIRA

## Experience

- Employed
- Contract
- Self Employed
- Voluntary
- Education

### **Apolitical** Oct 2017 - Present

London, UK [apolitical.co](https://apolitical.co)

#### Head of Engineering

I am currently employed at Apolitical, a platform for public servants to connect and share what's working in government. As the first in-house technical hire, I am building and leading an engineering team (4 people as of June 2018) that is creating the next generation of Apolitical's platform. As we are currently a small team, my role is a combination of hands-on coding, strategic architectural work, and team management.

We are migrating from a monolithic prototype to scalable microservices managed with Kubernetes. The microservices are built in a variety of languages as appropriate for the task at hand, including Node.js, Rust, Python, and some legacy PHP. Frontend development is using React, Redux, and a styled components approach. We are also using serverless functions, and API integrations with many third-party services.

### **Freelance** May 2017 - Oct 2017

Short-contract freelance technology work for a range of clients. Projects included:

- Team support, code review and maintenance for the [Open Data Institute](#)
- Early-stage blockchain application R&D on the [ARCHANGEL project](#)
- API design, review, and mobile app development for the [Environmental Defense Fund](#)
- Data publishing application development for the [Food Standards Agency](#)

### **The OpenPolitics Project** Jun 2013 - Present

[openpolitics.org.uk](https://openpolitics.org.uk)

#### Founder

OpenPolitics is a project exploring how open source ideas and methods can be used in the world of politics. It started as a project to write an alternative manifesto in an open source way on GitHub; the manifesto has since grown to over 50 pages long, and has been written by over 50 contributors, many of whom are non-technical and unfamiliar with the underlying platform.

I created a user-friendly interface for editing manifesto content on GitHub, creating pull requests and so on. The interface also implements a voting system to ensure democratic control of proposals and merging.

## **Open Data Institute** Jan 2013 - Apr 2017

📍 London, UK    🌐 [theodi.org](http://theodi.org)

### **Head of Labs** Nov 2014 - Apr 2017

I led the ODI's agile research & development (Labs) team, which explored new ways for organisations to publish, find, and consume data, both open and closed. Under my leadership, the team developed numerous tools including [Octopub](#), a tool to help users publish high-quality open data for free, and delivered a number of large research projects.

My role involved day-to-day team leadership and line management, but also developing programme strategy, finding clients and projects, working with project managers to deliver work, and managing a total budget of around £0.5 million.

During this time I was the technical author for the "[Data Sharing and Open Data for Banks](#)" report for HM Treasury, which made recommendations that led to the creation of the UK [Open Banking standard](#). I also authored an influential report on [blockchain technologies and their role in data infrastructure](#).

I am also an ODI registered trainer, and have delivered public training courses on technology topics including git/GitHub, and blockchains.

### **Web Developer** Jan 2013 - Nov 2014

I was a founder member of the agile development team at the ODI, building internal and external software to support the aims of the ODI and promote Open Data adoption. Our external-facing tools included [Open Data Certificates](#), a tool to help data publishers assess the quality of their data releases, and [CSVlint](#), a tool for validating CSV files for machine-readability. We also developed internal dashboards for key company performance metrics, which were later developed into an open source dashboarding tool called [Bothan](#).

## **Property Detective** Apr 2012 - Jan 2013

📍 London, UK    🌐 [propertydetective.com](http://propertydetective.com)

### **Rails Developer**

I was contracted to help build a homebuyers research site based on a wide range of open data. This involved building custom data cleaning pipelines, importers, and API clients, as well as backend and frontend development with Ruby on Rails.

## **AMEE** Sep 2008 - Mar 2012

📍 London, UK    🌐 [www.amee.com](http://www.amee.com)

AMEE was a platform company that provides access to environmental data and standards. The main product of the company was a RESTful API for carbon calculation, which has been used by many major clients including DECC, BP, and Google.

### **Platform Evangelist** Apr 2011 - Mar 2012

As Platform Evangelist, I was responsible for promotion of our service to developers and others outside the company. This involved creating new demonstrations of our service (including, notably, integration into the game Minecraft), creation of innovative new services such as [AskAMEE](#), and representing our service at external events such as conferences or hackdays. I am also responsible for maintaining much of the collateral that helps developers use our API, including examples, blog posts, client libraries, screencasts and so on.

In this role, I was the organiser of the London Green Hackathon in January 2012, which saw around 80 developers coming together to create new sustainability-related apps or services, and kickstarted a new cleanweb meetup community in London.

### **Software Developer** Sep 2008 - Apr 2011

Responsible for much of the company's frontend development work, including the award-winning environmental search engine [AMEE discover](#), and a number of successful applications for external clients.

## **SEOS** Jul 2004 - Mar 2007

📍 Burgess Hill, West Sussex, UK    🌐 [www.seos.com](http://www.seos.com)

SEOS makes display systems for flight simulators and planetariums.

### **Software Team Leader** Aug 2006 - Mar 2007

My role encompassed leading and managing a team of four software developers, ultimately responsible for all software delivered by the company. As well as day-to-day C++/MFC software development, this role required me to take a lead in software design, scheduling, solving resource conflicts, defining processes, as well as in people management.

I introduced a number of improvements to the process of software production at the company, with the introduction of a version control system (Subversion) and a bug tracking system (Trac), all using freely-available open source software solutions. These improvements, at no capital cost to the company, vastly improved the reliability and predictability of the software development team. I also drove improvements in the software release process, testing procedures (including the creation of a dedicated software QA position), and personal development within the team. I introduced various agile programming practices (including automated tools such as CruiseControl and CppUnit) with the aim of making the team more efficient and improving the quality of software releases.

### **Senior Systems Engineer** Jul 2004 - Aug 2006

I was responsible for growing an existing software base of around 300,000 lines of C++/MFC code to become more flexible, more powerful, and more easily extensible. This included refactoring the core application design, the introduction of a generic message-passing architecture, and the creation of an XML-based protocol for networked communications.

I also worked on interfacing with custom-built and COTS video processing and display hardware, often using TCP/IP and RS232 communication protocols, and on automatic setup and calibration of both individual hardware elements and complete display systems, using computer vision techniques such as contour and shape detection.

## CVSSP, University of Surrey Sep 1998 - Nov 2003

📍 Guildford, Surrey, UK    🌐 [www.surrey.ac.uk/cvssp](http://www.surrey.ac.uk/cvssp)

### PhD, Computer Graphics & Animation

During my PhD research, I developed a method of using densely scanned 3D surface data in realtime animation systems, using a layered approach including skeletal animation and displacement mapping techniques. My full thesis is [available for download](#).

## University of Surrey Sep 1994 - Jul 1998

📍 Guildford, Surrey, UK    🌐 [www.surrey.ac.uk](http://www.surrey.ac.uk)

### MEng, Information Systems Engineering (2:1)

A combination of electronics and software engineering, my degrees gave me an overview of the full stack of computer technology, from semiconductors to web development. Specific subjects included numerous programming languages and techniques, computer architectures, network protocols, and machine intelligence. My third and fourth year projects explored AI and robotics, in the areas of game playing and pathfinding.

## Contact Details

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