Tom Lodge

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Research Fellow, Full stack developer

I am a **research fellow** and **developer** at **Nottingham University.** I have worked on a broad variety of projects, and have built up expertise in technologies right across the stack, from **low level infrastructure** code (building home routers) to **front-end** development and **mobile** apps. I'm also a **director/lead developer** for an early stage startup which is developing software for high-rise residential communities. Most recently I've been enjoying front-end work and have a keen and growing interest in **data visualisation**

Key Skills

Frontend	Backend	Devops
React.js, Flux, D3.js, Knockout.js	Node.js, Flask, Jekyll	Amazon EC2, Heroku, Vagrant, Linux
iOS (Objective-C), Android (Java)	Javascript, Python, PHP, Objective-C, Java	Apache,Nginx,Varnish, Haproxy,Squid
CSS, HTML, Less	Drupal	Mysql, Postgresql, SQLite, MongoDB, Neo4j

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Recent Work

User Centered Networking, role: researcher — 2014-Present

European Union Funded

This project is a multi-institution collaboration (*Technicolor, Eurecom, Fraunhofer, Intamac, University of Cambridge, University of Nottingham, Martel Consulting, Inria, Portugal Telecom*) which is developing content and recommendation systems based upon user networking behaviour. In collaboration with an ethnographer, I have built data visualisation tools (**d3.js**) and a **python** backend which support detailed analysis and tagging of network data being collected in households across France.

Communities in the Clouds, role: principal investigator — 2014-2015

Research Councils UK Funded

I won funding for a pilot project in collaboration with *Microsoft Research* which investigated the role that technology might play in supporting residents living in high-rise and high-density communities. The project had a large data analysis and visualisation component, which used **d3.js**, **knockout.js** and **Flask** and some **python** screen scraping libraries for data collection. As a direct consequence of this work, I have built an android app which is being installed in a large residential estate in South

East London- Erith Park - to help encourage community building.

Becoming Dataware, role: researcher **2012-2014**

Horizon Digital Economy Funded

This project investigated how users might take greater control and ownership of their 'digital footprint' by considering a locally controlled hosted and managed personal data store that permits constrained queries by third parties (energy companies / supermarkets etc). I developed and extended code (**python**) to create a proof-of-concept home router that collected energy and network data which could be interrogated by (**oAuth**) permitted third parties. The software ran on a small form factor, **Linux** arm computer (dreamplug)

Homework, role: researcher **2009-2012**

Engineering and Physical Sciences Research Council Funded

A four-year, five-institution (*Nottingham, Imperial, Glasgow, Nottingham, Microsoft and BT*) collaboration looking at the design and provision of tools to improve support for home networking. I was part of a team that built a **Linux** router (running **Nox/Open vSwitch)** and developed two **iphone/ipad** apps that supported novel visualisation and control of a local home network.

Employment

University of Nottingham Horizon Digital Economy **2013-Present**

Research Fellow

Queen Mary, University of London Open & Distance Learning **2002-2005**

Research Associate

University College London Networks & Multimedia Research **2000-2002**

Research Associate

Education

University of Nottingham PhD, Opportunistic Data Collection in People Centric Sensor Networks **2006-2012**

University College London MSc, Data Communications and Distributed Systems **1999-2000**

Award: Distinction

Queen Mary, University of London BSc (Hons), Computer Science **1996-1999**

Award: First, Drapers award for 'outstanding academic achievement'