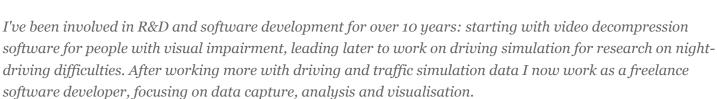# Matthew Fullerton

Address: Werner-Friedmann-Bogen 18, 80993 Munich, Germany
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Email: matthew@smartlane.de

I've been involved in R&D and software development for over 10 years: starting with video decompression software for people with visual impairment, leading later to work on driving simulation for research on night-driving difficulties. After working more with driving and traffic simulation data I now work as a freelance software developer, focusing on data capture, analysis and visualisation.

Further information about me and my work including a list of publications from my time in research can be found on LinkedIn. Code contributions can be found on GitHub.

Professional Experience

10/2016-3/2017   **Climate-KIC stipend holder for Hawa Dawa UG, Munich**

Software Engineer

- Building infrastructure for the collection and model-based visualization of air quality data from a sensor network

4/2016-12/2016   **Impact Hub Fellow for Hawa Dawa, Munich**

Software consultant and co-founder of the resulting company

1/2015-12/2015   **EXIST stipend holder for Smartlane, Munich**

Technical Director and co-founder of the resulting company

- Development of a flexible platform for data processing and visualization for the mobility industry including CKAN as a dataset and visualization management tool

4/2013-present   **Freelance Software/Web Developer**

On the following projects (current projects marked in bold):

- Smartlane UG, Munich
  - **SmartlaneDISPATCH! mobile app**
  - Mobility data visualization examples (2015)
- Open Data Census 2013 - improvements to backend and frontend mostly to improve the submission and review process (Open Knowledge, 2013-14)
- Open Knowledge Foundation Germany:
  - **2030 Watch - a data visualization platform for monitoring progress towards the 2030 Sustainable Development Goals**
  - Open Data Monitor (open-data-map.de, offenedaten.de) - harmonization and analysis of multiple German data catalogs (CKAN and non-CKAN), web crawling and scraping for civic data sources - 2014
  - Spending visualizations (**Berlin**, Rheinland-Pfalz) - 2014
  - **Technical support and development work for offenesdatenportal.de (Niederrhein region) and daten.aachen.de (Aachen) (CKAN-based)**
- Motion tracking data capture (University of Munich, Psychology Faculty, 2013-14)

3/2009-6/2014	**Chair of Traffic Engineering and Control, Technische Universität München**
	Research Assistant/Doctoral Candidate

- Responsible for partner contribution to an EU FP7 project (SOCIONICAL - exploring the interfaces between human behavior and technology that influences that behavior in the realm of traffic and crowd management)
- Teaching and student thesis supervision

Higher Education

10/2007-7/2009	**MSc in Electronics by Research, University of York, UK**
	Thesis: *Development of a System to study Glare Sensitivity in a Driving Simulator*

- The research was conducted at Eli Peli's Lab at the Schepens Eye Research Institute, Boston (Harvard Medical School affiliate) during a paid research stay (8/2007-11/2008)

10/2002-7/2007	**MEng in Electronics with Media Technology and a Year in Industry, University of York, UK**
	Thesis: *StroMoHab - Environment and Task Creation*

- My year in industry was spent carrying out research at Eli Peli's Lab at the Schepens Eye Research Institute, Boston (Harvard Medical School affiliate)

Skills and other activities

Languages	English: native
	German: fluent
	French: can get by

Computer skills (not exhaustive)	

- Languages: Python, JavaScript/node.js, Java, C/C++
- Web: HTML(5), CSS(3), Flask, Express, jQuery, React.js, AngularJS, Bootstrap, ElementalUI
- Mobile: Cordova, Android SDK
- DevOps/Sysadmin: Docker, Npm/Grunt, AWS, Bash, Supervisor, Cron
- Data: SQL, mySQL, Postgresql, Accumulo/Hadoop, Kafka; I also have an in-depth knowledge of the CKAN Data Management System
- Office, graphics and video: OpenOffice, MS Office, Markdown, LaTeX, GIMP, Final Cut Pro

Activism and community contributions	

- Development of websites for non-profit organisations (e.g. International Campaign for Justice in Bhopal, You Are Here News Magazine (below))
- Co-founder of local volunteer video news magazine in Cambridge, MA, USA
- Active Member of Speak, People and Planet, University Radio York and York Student Television during my time in York
- I act as a maintainer for dataportals.org and the Recline.js data visualization library. I set up and maintain a document OCR service at givemetext.okfnlabs.org.