Adam Kewley 19th Jan 2019

E-mail: adamk117@gmail.com **Site**: adamkewley.com **GitHub**: github.com/adamkewley
Tel: +44 784 958 9843 **Location**: Cambridge **Nationality**: British

Relevant Work Experience

2018–present **Software Developer**
PetaGene Ltd.

Software development at a biotech startup. I develop software that losslessly (de)compresses genomic data. PetaGene's core product transparently exposes that data through a virtual filesystem, which enables customers to integrate the software with no changes to their existing pipelines. **Languages**: C, C++, Python.

2016–2018 **Software Developer**
Institute of Astronomy, University of Cambridge

Software development for the Gaia Satellite project. I designed, implemented, and deployed systems that process >1 PB datasets. **Languages**: Java, Scala, Ruby, Python, Javascript. **Tech**: MapReduce, Spark, React, Luigi.

2015–2016 **Automation, Standardization, and Data Scientist**
Unilever PLC

Software development, data science, and research for Unilever's Automation and Standardization team. I produced several processing systems that helped Unilever staff conduct research faster and more reproducibly. **Languages**: C#, R, SQL. **Tech**: WPF, PipelinePilot, Oracle SQL.

2014–2015 **Full-Stack Web Developer**
Crown Informatics Ltd.

Software development for a small company that produces clinical audit platforms. I developed landing pages, login portals, and contact systems. Remote working position. **Languages**: Javascript, Ruby. **Tech**: IBM Notes, IBM Domino, Angularjs

2011–2015 **Ph.D. in Chemistry**
Department of Chemistry, University of Liverpool

Academic research into porous organic cage compounds. I performed automated synthetic experiments with robotic platforms and designed sensitive analytical experiments. **Supervisor**: Prof. Andrew Cooper FRS. **Outputs**: Two publications (see below) and a patent in a novel separation technology (WO2015198070).

Education

2011–2015 **PhD in Chemistry**. University of Liverpool
Thesis: *Synthesis and Separation Properties of Organic Cage Compounds*
Supervisor: Prof. Andrew Cooper FRS

2011 **MSc in Nanoscience**. University of Nottingham
Grade: Merit

2007–2010 **BSc in Chemistry**. University of Nottingham
Grade: First

2007 **A-Levels**. Wirral Grammar School
Grades: Chemistry (A), Physics (A), Computing (A)

Programming Experience

I am a self-taught software developer. The main literature I studied early-career was software engineering focused (e.g. *Pragmatic Programmer*, *Code Complete*, *The Art of Unix Programming*). I am gradually shifting towards theoretical literature (e.g. *Compilers*, *Introduction to Algorithms*).

>1024 h	Java, C#, Javascript, Ruby, Python
>256 h	C, F#, SQL, Scala
>128 h	C++, Rust, Clojure, Typescript, Bash, Haskell
>32 h	PHP, x86 ASM, VBA, Lua, WebGL, OpenGL

Note: language experience does not necessarily correspond to future interest.

Relevant Publications

2018	Gaia Data Release 2: Processing of the photometric data *Astronomy and Astrophysics* (doi.org/10.1051/0004-6361/201832712)
2015	Porous Organic Cages for Gas Chromatography Separations *Chemistry of Materials* (doi.org/10.1021/acs.chemmater.5b01112)
2014	Separation of Rare Gases and Chiral Molecules by Selective Binding in Porous Organic Cages *Nature Materials* (doi.org/10.1038/nmat4035)
2012	Supramolecular isomers of metalorganic frameworks: the role of a new mixed donor imidazolate-carboxylate tetradentate ligand *Dalton Transactions* (doi.org/10.1039/C2DT12055K)

Other

2012–2018	**Public Engagement**. Royal Society Summer of Science Exhibition (*Gaia*, 2018; Cooper Group, 2017). Birmingham Big Bang Fair (*Gaia*, 2017). RSC "Spectroscopy in a Suitcase" (5 schools, 2014-2015). Events involved engaging directly with the public, at exhibition stands or in classrooms, to discuss the value of scientific research.
2014–2018	**3D Design**. Designed and published journal front covers for *Agnewandte Chemie* (2018), *Nature Chemistry* (2018, 2017), *Advanced Materials* (2016), *Nature Materials* (2014, 2018). Designed convention backdrop for RS Summer of Science exhibition (2017).
2016–2018	**Open-Source**. Some of my side-projects and studies are published open-source. My site contains live demos of some of my work. Example projects: • **Rust**: Studied Rust introduction and produced small application in the language (fo2dat, GitHub). • **Multiprocessing**: Developed webapp that connects server-side processes with web browsers (textadventurer, Github) • **Web UX**: Developed interactive webapp that enables researchers to edit lab plates as tables (plateyplatey, Github)
2007–2010	**Undergraduate Awards and Grants**: Nuffield Bursary (Mouchel Parkman PLC, 2006), Robert Ficken award for Academic Excellence (University of Nottingham, 2007), Nuffield Bursary (Prof. Stephen Liddle, 2008), Stanley Kipping awards for academic excellence (University of Nottingham, 2008 and 2009), BBSRC sponsorship (MSc in Nanoscience, University of Nottingham, 2011).