# Andy Hayden

Pandas core developer, maths graduate and kayak coach.

Passion for finding simple and elegant solutions to complex problems,  
and data-driven development.

## Experience

2015 –

*Senior Software Engineer,* [*Altos Research*](https://altosresearch.com/)*.*  
- Full-stack: Scala/Play, Angular, Postgres, NGINX.  
- Responsible for re-vamped web product: white-labelled real estate market reports.  
- Designed and implemented the payment system (using Stripe API).  
- Devops, built out monitoring and alarms (e.g. SNS-Slack integration).  
- Automating weekly captures and simplified monitoring of processes.  
- Simplifying/containerizing majority of stack from Opsworks to Elastic Beanstalk.  
- Extensive use of AWS.

2014 – 2015

*Technical Consultant, Freelance.*  
- Contract software development (specializing in building data tools).  
- Teaching companies how to leverage python for data science.  
- Led workshops on git migration/best practice, and leveraging continuous testing and deployment. [*Example git slides*](http://slides.com/hayd/git).

2013 – 2014

*Software Engineer and Data Scientist, Awesome Decision.*  
- Designed and implemented machine learning in decision flows.  
- Back and front-end development using ruby-on-rails, angular, heroku, redis, and postgres.

2012 – 2013

*Lead Analyst and Technical Manager, Pierce Protocols.*  
- Using python (pandas, numpy, scikit-learn) for data analysis of the art market.  
- Developed application for dynamic aggregations, visualisations, and estimations.  
- Responsible for refactoring and extending internal data tool/database.  
- Website technical manager of a team of six website curators for client’s main site.  
- Introduced and pushed the use of bug tracking software and integration testing.

2008 – 2011

*Mathematics Researcher / Tutor,* [*Durham University*](https://www.dur.ac.uk/mathematical.sciences/)*.*  
- Researched billiards, hyperbolic geometry and Teichmueller theory.  
- Led classes. Responsible for the construction and delivery of sessions.

2007

*Analyst (summer placement),* [*Network Rail*](http://www.networkrail.co.uk/)*.*  
- Recommended methods to control specific types of expenses.

2006

*Project Accountant (summer placement),* [*Network Rail*](http://www.networkrail.co.uk/)*.*  
- Automated database extraction to compile reports.  
- Responsible for balancing ~300 projects’ accounts in the Southeast region following migration to Oracle Projects. By end of placement this region was completely balanced.

## Open Source Projects

2013 –

*Various, including:*  
- [Pandas](http://pandas.pydata.org/) core team.  
- [Julia-lang](http://julialang.org/) core team.  
- Authored libraries including [ctox](https://github.com/hayd/ctox), [pep8radius](https://github.com/hayd/pep8radius) and [pyfaker](https://github.com/hayd/pyfaker).

## Education

2003 – 2007

*Master of Mathematics, First class with honours,* [*University of Warwick*](http://www2.warwick.ac.uk/fac/sci/maths/)*.*  
Thesis: *Lattice Stabilisers & Closed Orbits For SL(2, R) Action On Translation Surfaces.*

2001 – 2003

*A-levels.* [*Esher College*](http://www.esher.ac.uk)*.*  
Mathematics, Further Mathematics, Physics, and Chemistry.

## Self Learning

2012 –

*StackOverflow.*  
[Top pandas answerer](http://stackoverflow.com/tags/pandas/topusers). Over 1k answers and 5k upvotes.  
80k reputation, [sportsmanship](http://stackoverflow.com/help/badges/805/sportsmanship?userid=1240268) and active in moderating the site.

2015 –

[*Coursea*](https://www.coursera.org)*.*  
- Functional Programming Principles in Scala.  
- Functional Program Design in Scala.

2012 – 2014

[*Udacity*](https://www.udacity.com/)*.*  
- Design of Computer Programs.  
- Software Testing.  
- Programming Languages.  
- Web Application Engineering.  
- Programming a Robotic Car.

## Voluntary

2015 –

Speaker at Python and Julia Meetups to audiences of up to 300 e.g. [BayPIGgies](http://www.meetup.com/silicon-valley-python/events/145170122/).

2012 – 2014

[Udacity](https://www.udacity.com/).  
Working with other students to learn python, "got the tshirt" (for my help)!

2008 – 2010

*Junior Geometry Seminar Organiser, Durham University.*  
Founded seminar, organised speakers, logistics, and directed discussion.

2008 –

*Kayak Coach, various groups.*

2008 – 2011

*Mountain Rescue Canoe Team Member, Teesdale & Weardale Mountain Rescue.*

## Other qualifications and awards

2012

Five Star White Water Leader (Kayak), [British Canoe Union](http://www.bcu.org.uk/).

2012

Coaching Processes, [British Canoe Union](http://www.bcu.org.uk/).

2011

John O’Groats to Land's End (cycle), [Macmillan Cancer Support](http://www.macmillan.org.uk).

2010

Associate of the Higher Education Academy.

2009

Casualty Care (First Aid), North-East Search & Rescue Association.

2008

Level Three Kayak Coach, [British Canoe Union](http://www.bcu.org.uk/).

2002

Chief Scout Award, The Scout Association.

## Activities and interests

Climbing, Cycling, Hiking, Kayaking, Octopush, Running, Swimming, Woodcarving, Yoga.

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