Andy Hayden

Maths graduate, pydata/pandas core developer, and kayak coach.

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

Experience

Feb 2013 – present

Co-founder, Awesome Decision (prelaunch).
- Designed and implemented machine learning algorithms for decision-making.
- Using python, ruby-on-rails, angular, git, heroku, redis, and postgres.
- Manage git repository workflow.

Feb 2012 – Jan 2013

Lead analyst and technical manager, Pierce Protocols.
- Using Python, its pandas library, and machine learning to deliver data analysis for art market. Developed this into an application for dynamic data analysis and visualisation.
- Responsible for refactoring a client's Filemaker database (connecting via ODBC to external data sources (MySQL databases) for live data), fixing bugs in the legacy codebase, writing Filemaker scripts to perform complex queries and create dynamic reports, and creating documentation.
- Website technical manager of a team of six website administrators for client's site. Introduced and pushed the use of Trello, for bug tracking and managing developer work-flow, and integration testing. Oversaw regular QA-ing of the site and led team meetings to decide direction for future development.

Oct 2008 – Sep 2011

Mathematics researcher, tutor and exam supervisor, Durham University.
- Researched billiards, hyperbolic geometry and Teichmueller theory.
- Led classes of 20+ university students. Responsible for the construction and delivery of sessions, marking and giving feedback on assessed work (providing 1-1 support), and discussing weekly tasks.
- Accountable for the setting up and smooth running of undergraduate examinations. Took a supervisory role over multiple examinations and issue resolution.

July 2007 – Oct 2007

Analyst (summer placement), Network Rail.
- Liaised with admin staff and accountants to generate detailed reports for Network Rail directors.
- Recommended methods to control specific types of expenses, and engaged with senior managers and administration to ensure implementation.

July 2006 – Oct 2006

Assistant project accountant (summer placement), Network Rail.
- Extracted data from databases to compile reports. Produced and presented the monthly accounts to executives both for the Southeast and across the UK.
- Responsible for balancing several hundred projects' accounts in the Southeast region following migration to Oracle Projects. By the end of my placement this region was completely balanced.

Open Source Contributions

Feb 2013 – present

Pandas core team / maintainer, Pydata.
- Contribute code for features, bug-fixes, review pull-requests and triage bugs.
- Use test driven development (travis-ci) and performance testing against git (vbench).

Education

Oct 2003 – June 2007

Master of Mathematics, First class with honours, University of Warwick.
Thesis on "Lattice Stabilisers & Closed Orbits For SL(2, R) Action On Translation Surfaces".

Oct 2001 – June

A-levels. Esher College.

| 2003 | A in Mathematics, Further Mathematics, Physics. B in Chemistry. |

Self Learning

May 2012 – present day	*StackOverflow.* Top pandas answerer, with over 1000 upvotes on answers. Over 800 answers, > 20k reputation, sportsmanship and active in moderating the site.
Feb 2012 – present day	*Udacity.* CS212 Design of Computer Programs. Clarity, generality, decomposition and composability. CS258 Software Testing. Unit and integration, black-box, coverage, random and fuzz testing. CS262 Programming Languages. Regex, lexing and parsing, and interpreting. CS253 Web Application Engineering. HTTP, cookies, hashing, scaling and caching (GAE). CS373 Programming a Robotic Car. Probabilistic inference, planning, search, localization, tracking and control.

Voluntary

2012	Udacity. Working with other students to learn and develop in Python, "got the tshirt" (for my help)!
2008 – 2010	*Junior Geometry Seminar Organiser, Durham University.* Founded seminars, organised speakers, booked rooms, directed discussion and published notes.
2008 – 2009	*IT Officer, Durham University Canoe Club.* Maintained the website, oversaw communications. Instigated and led a progression programme, created a development path and mentoring scheme for coaches.
2008 – 2013	*Kayak Coach, various youth groups*
2008 – 2011	*Mountain Rescue Canoe Team Member, Teesdale & Weardale Mountain Rescue.*
2005 – 2007	*Tour Secretary, Warwick University Canoe Club.*
2000 – 2008	*Assistant Scout Leader, 1st Hinchley Wood Scouts.*

Other qualifications and awards

2012	Five Star White Water Leader (Kayak), British Canoe Union.
2012	Coaching Processes, British Canoe Union.
2011	John O'Groats to Land's End (cycle), Macmillan Cancer Support.
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.
2002	Chief Scout Award, The Scout Association.

Activities and interests

Coding, Climbing, Cycling, Kayaking, Octopush, Running, StackOverflow, Ubuntu, Woodcarving, Yoga.

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