

S²DS

Science to Data Science

Experiences from the S2DS 2014 programme



pivigo
academy

Why the need for S2DS

The use of data in advanced applications will revolutionise our lives. It will shape our healthcare, our homes and our work. Data Science is the art and skill of drawing out relevant and innovative information and value from large, diverse and fast-changing data sets.

“The winners and the losers in the emerging data economy are going to be determined by their Data Science teams.”

Booz Allen Hamilton

Many companies are just getting started with Data Science and are uncertain about the skills they need in their data teams. Hence they often look for “Data Unicorns”, magical, if not mythical people with perfect skills in all areas. Programmes like S2DS help turn excellent PhDs into commercial Data Scientists.

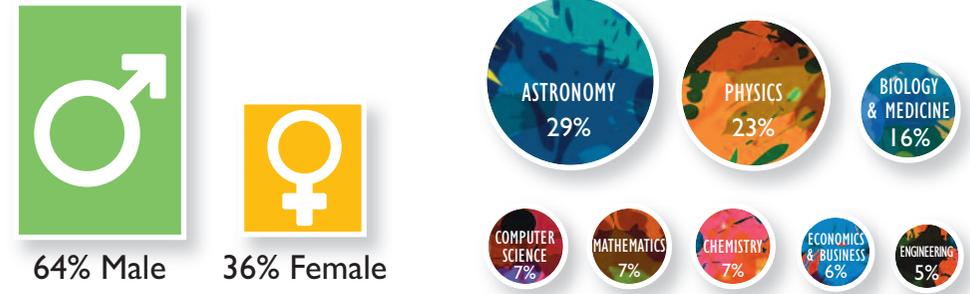
“Four out of five data-intensive businesses are struggling to find the skills they need to meet the growing demand.”

Nesta & Royal Statistical Society

S2DS, organised by Pivigo Academy, is the brain child of MD Kim Nilsson, and was born out of her experiences transitioning from a career in astrophysics to a more commercial role. The pivigo team is passionate about helping academic talent make the leap into Data Science jobs in commercial industry.

The incoming 2014 S2DS cohort

S2DS is about bringing the best and the brightest of academic talent together to solve problems and have fun. S2DS is also about bringing together a diverse group, so that Fellows can learn from each other. We are proud about the diversity of our 2014 cohort, as seen in the following numbers.



Including: UK, Italy, Germany, Spain, USA, France, Netherlands, Lithuania, Iran, China, Austria, Cyprus, Finland, Mexico, Slovenia, Poland, Greece, South Korea, Estonia, Canada, Ukraine, Colombia, Taiwan and Portugal.

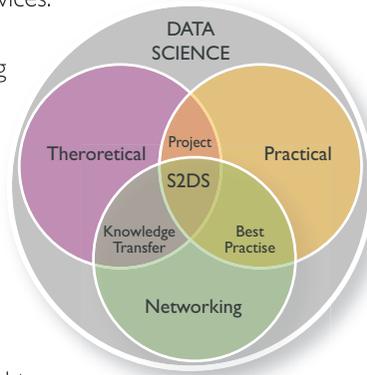
The S2DS 2014 Programme

The 2014 programme had three key aspects to it. On the theoretical side, both technical and business topics were covered in lectures and exercises given by both academic and industry professionals. Fellows particularly appreciated the commercial lectures, and the insight they gave in a world not often represented in academia.



One of the main advantages of S2DS is the practical work. Teams of 3-4 PhDs worked effectively full-time for 3.5 weeks on real, commercial problems proposed and mentored by our partner companies. The outcomes were presented to the partner companies, and many are currently being implemented into their products and services.

The third key aspect to S2DS was networking and sharing of experiences. This was encouraged among the Fellows, between Fellows and mentors and company representatives, and in extra-curricular events where external industry professionals visited the campus and shared their insights.



These three aspects together create a unique experience that is beneficial to all those participating in S2DS.

We envision S2DS 2015 to include all these aspects in similar measures, following the success of S2DS 2014.



The S2DS Experience for Fellows

The feed-back from the Fellows has been invaluable in improving on next year's curriculum. The most appreciated aspects of the programme were the commercial projects and diverse networking opportunities. 98% of Fellows are now very interested in pursuing Data Science careers.

"The project work was a fantastic way to learn. After just a few weeks, I had a practical understanding of core data science principles."

Stephen Gadd



"S2DS offers PhDs the chance to learn important Data Science skills required for the commercial side. The project work was intense but extremely rewarding."

Nicky Choudhury

"It was a profound experience of meeting and developing relationship with like-minded aspiring data scientists worldwide."

Yeunjin Kim



Digital Shadows case study

Digital Shadows is a London-based cyber-intelligence company supplying enterprise-grade threat intelligence and data leakage information as a managed service. Digital Shadows offers, amongst others, a service used by companies to determine what confidential, sensitive and proprietary data is leaking through the organisational boundary. The company came to S2DS wanting to improve on their current algorithms for selection and scoring to identify leaked documents more efficiently, reducing the amount that require assessment by an Analyst.

THE PROJECT SET-UP:

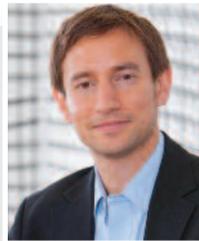
The team consisted of four S2DS participants with analytical PhDs in collaboration with a mentor from Digital Shadows. The team spent the first part of the project understanding their dataset and the problem, followed by finding new and optimum methods of extracting information from documents analysing the results. Finally, using statistics, machine learning techniques and Graph/Network Models the team were able to radically improve the classification of documents.

THE OUTCOME:

The team presented several algorithms to Digital Shadows. The recommended algorithm was able to reduce the need for analyst verification by 76%, while at the same time not missing a single critical case. The benefits are clear: By introducing robust and consistent machine learning methods, constructed and implemented by S2DS data scientists, Digital Shadows could significantly reduce the time spent for analyst verification. As Digital Shadows continues its rapid growth these efficiency gains will have a significant impact on the company, helping to maintain its position as the leading cyber intelligence provider.

“We were delighted with S2DS - a very well run programme full of talented individuals that made a real difference to our business.”

Alastair Paterson, CEO Digital Shadows



The S2DS Experience for Partners

The feed-back from partners and mentors has been overwhelmingly positive. They all agreed on the level of talent in the cohort, and the level of usefulness of the project outcomes. More than nine out of ten partners have told us they would like to join us again next year.

“For KPMG, as principal partner of the programme, we had the unique position to focus the programme to be business issue led and establish the UK as a centre for transitioning PhD's into commercial data science, both aims were achieved. We look forward to welcoming our new S2DS fellows into KPMG in the UK.”

Gary Richardson, Director, KPMG Analytics

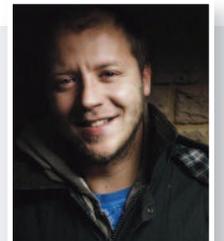


“The S2DS participants brought a fresh perspective and a wide range of technical expertise to our business problems. Their enthusiasm made it a fantastic learning experience for all of us.”

Aki Matsushima, Data Scientist & S2DS Mentor at Royal Mail

“Being part of S2DS was very valuable to RefME. Not only did we benefit from the specialist resource required to prototype an integral part of our product, it also enabled us to work with great data scientists, one of which has subsequently joined our team.”

Ian Forshew, COO at RefMe



Want to get involved?

AS A PARTNER

- Provide a team with a challenging and rewarding project
- Mentor a team
- Recruit from the best talent
- Reach out to both the scientific and data science community

AS A VOLUNTEER

- Support our teams with your technical knowledge
- Give a lecture or join a panel debate on data science topics
- Engage with the S2DS network of talented individuals and exciting companies

AS A FELLOW

- Join an exciting project and learn career-winning skills
- Meet great people and build a personal network
- Engage with companies in the data science sector

Want to know more?

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The logo for pivigo academy features the word "pivigo" in a bold, white, lowercase sans-serif font, with a small purple star above the letter 'i'. Below "pivigo" is the word "academy" in a smaller, white, lowercase sans-serif font. The logo is set against a green background that forms a diagonal shape at the bottom right of the page.