



**Student:** Navin Seeburn  
 Royal Holloway  
 University of London  
**Placement:**  
 RedOptima  
**Role:** Data Engineer  
 (now a job role)

*“Having an entire project ride on your shoulders has made a much more mindful and pragmatic thinker of me. I’m still something of a perfectionist, but I’m definitely learning!”*

**What was the subject of your PhD?**

I was working on event reconstruction and analysis in a dark matter direct detection experiment known as DEAP-3600.

**Describe a typical day on placement**

My days were spent supervising other interns whilst writing the software and framework for a large-scale analysis we were working on as a team. I’d field questions from the other interns, help debug code and hash out problems over whiteboards. Work would commence at around 10am meaning a quiet morning office and an uncrowded commute!

I’d meet with other interns at a morning standup to state our progress, establish what we wanted to achieve that day, and identify roadblocks we’d encountered or foreseen. This brought possible avenues for co-operative work (and delegation!) if one person was having problems the others knew how to fix. This turned into individual and group supervisory meetings as their analyses grew and overlapped. RedOptima shares an office and CEO with the company BlueOptima so coffee breaks and post-work pub trips were spent getting to know the BlueOptima family who, it turned out, were lovely!

**What skills and knowledge do you feel you have learned during the placement?**

I learned an enormous amount about leading a team, from focusing others’ efforts to maintaining morale and juggling four projects at once. Learning to supervise I also drew on my experience being supervised which consolidated a lot of the lessons I learned from being a PhD student.

I worked on machine learning projects, a very hot topic across multiple domains right now. I also quickly learned about administering big PostgreSQL databases and Amazon AWS infrastructure. In addition, I learned about writing scalable automated analysis software from scratch in Python - a challenge given that until then my main language was C++. I got to use my physics degree in industry, reading papers and identifying and implementing the best physical models for real world processes. Working in particle physics prepared me for the challenges that designing large scale automated analyses can pose.

**How do you think doing a placement has benefited you for the future?**

The experience eased me into the idea that good enough can be good enough which I was reminded of frequently. Much of academic life can be spent refining and perfecting analysis whereas in industry things move faster and a quick analysis can bring enormous value and impact while refinement can come later as we go along.